Includes an insert in pocket at end of volume.

HOOSAC PIER

Final Environmental Impact Report

Prepared by

massport

Boston, Massachusetts

December
1982

PROPOSED DEVELOPMENT

Charlestown, Massachusetts

massport

HIGH ST. BOSTON, MASSACHUSETTS 02110 (617) 482 2930 TELEX 94 0365

December 30, 1982

Secretary John Bewick
Executive Office of Environmental Affairs
Leverett Saltonstall Building - 20th Floor
100 Cambridge Street
Boston, MA 02202

Dear Secretary Bewick:

It is with pleasure that I submit this Final Environmental Impact Report (FEIR) on the redevelopment of Hoosac Pier for your review.

While the development plan described here is identical to the plan described in the Draft Environmental Impact Report, the following important modifications have been made in this FEIR:

- The public will have access to the entire pier edge between 5:00 p.m. and sundown on weekdays and during daylight hours on weekends. A drawing showing access along the water edge of the overflow parking area is included.

- The trip generation analysis has been revised.

- Charts showing the schedule for both the bulkhead and building construction contracts are included in this FEIR. Sandblasting of the bulkhead's east face will begin after work on the U.S.S. Constitution is completed.

- Traffic mitigating measures including a shuttle bus or van connection to downtown Boston and preferential parking for car pools are described.

Massport staff and the developers, O'Connell Brothers and Corcoran, Mullins, Jennison will continue to coordinate this project with Hoosac Pier's neighbors throughout the bulkhead and building construction period.

Secretary Bewick
Page 2
December 30, 1982

I look forward to the successful conclusion of the environemntal process and the beginning of construction of Hoosac Pier this spring.

Sincerely,

Elliot K. Friedman
Director of Property Management and
Real Estate Development

EKF/nkd

Enclosure

HOOSAC PIER

Final Environmental Impact Report

repared by

massport

Boston, Massachusetts

cember
982

PROPOSED DEVELOPMENT

Charlestown, Massachusetts

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FINAL EIR
Proposed Development of Hoosac Pier
Charlestown, Massachusetts

ABSTRACT

This is an action to assess the environmental effects of one major development alternative and one rehabilitation effort for a 15 acre site known as Hoosac Pier in Charlestown, Massachusetts, and to propose feasible mitigating measures.

Project Proponent:	MASSACHUSETTS PORT AUTHORITY
Final EIR Prepared By:	Massachusetts Port Authority Staff
Consulting Firms:	Architectural Resources Cambridge, Inc. Hayden, Harding & Buchanan
Contacts:	Anne Meyers Project Manager Development Department (617) 482-2930 x470 and Norm Faramelli Director of Planning Planning Department (617) 482-2930 x359 of the Massachusetts Port Authority 99 High Street Boston, MA 02110
Note of Availability of Final EIR:	State *Environmental Monitor* January 10, 1983
Comment Period on Final EIR:	January 10, 1983 - February 9, 1983
Comments should be submitted to:	Samuel Mygatt, Director MEPA Unit - 20th floor 100 Cambridge Street Boston, Massachusetts 02202 RE: EOEA #4381-Hoosac Pier

PREFACE

APPENDIX A
COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

ENVIRONMENTAL NOTIFICATION FORM

I. SUMMARY

A. Project Identification
1. Project Name Hoosac Pier

2. Project Proponent ~~Massachusetts Port Authority~~
Address ~~99 High Street, Boston, MA 02110~~

B. Project Description: (City/Town(s) Boston, Charlestown
1. Location within city/town or street address Constitution Way (formerly Water Street)

2. Est. Commencement Date: June 1982 Est. Completion Date: Winter 1984
Approx. Cost $ $10,000,000 Current Status of Project Design: * % Complete
*40% Design Bulkhead Repair
5% Architectural

C. Narrative Summary of Project
Describe project and give a description of the general project boundaries and the present use of the project area. (If necessary, use back of this page to complete summary).

The Massachusetts Port Authority proposes to rehabilitate Hoosac Pier. The proposed work includes repair of the bulkhead and construction of office space and a restaurant.

Immediate rehabilitation of the bulkhead is required to prevent damage to the structural integrity of the pier. The existing pier consists of a relieving platform supported primarily by timber piles and enclosed by a steel sheet-pile bulkhead. Options for reconstruction include concrete facing, new steel plating or application of a protective coating. The surface of the bulkhead would be prepared by sand blasting prior to application of a new surface. Options for protective coatings include expoxy-based materials or coal tar. A small area of fill is required to allow emplacement of tie rods and concrete anchor blocks.

Hoosac Pier currently supports a 204,000 s.f., one-story warehouse building surrounded by an asphalt apron. The building was constructed in 1949-50 and utilized as a marine warehousing facility. Total marine cargo tonnage declined at Hoosac from 23,953 tons in 1969 to no cargo tonnage in 1973. This decline is attributable to changes in marine technology and the fact that there are only 9 acres of land at the site, Hoosac has not been utilized as a marine cargo facility since 1973. It has been periodically leased for general warehousing, but has primarily remained vacant.

Copies of this may be obtained from:
Name: Thomas M. Galvin Firm/Agency: Massport
Address: ~~99 High St., Boston, MA 02110~~ Phone No. ~~482-2930~~

1979 THIS IS AN IMPORTANT NOTICE. COMMENT PERIOD IS LIMITED.
For Information, call (617) 727-5830

Use This Page to Complete Narrative, if necessary.

The site also is occupied by Bunker Hill Pavilion, Constitution Marina and related parking. It is bordered on the north by the Boston National Historic Park (USS Constitution), by Boston Harbor on the east, by Rapids Furniture Warehouse Pier on the South and by Constitution Way (formerly Water Street) to the West.

Building construction activities on the site will involve demolition of the existing roof and skin and reusing the columns and foundation to build an office building of approximately 120--140,000 square feet and a 10 --20,000 square foot restuarant, or construction of a new low level structure.

Rehabilitation of the Hoosac Pier complements development activities in the adjacent Charlestown Navy Yard, the National Park Service and the Boston Redevelopment Authority.

Pier rehabilition incorporates community goals for job generation and public access to the waterfront. A plaza at the end of Joiner St. and a walkway along one edge of the pier (overlooking the Boston Skyline) will substantially increase community access to the waterfront. The existing marina at the pier is an integral component of the plan.

. This project is one which is categorically included and therefore automatically required preparation of an Environmental Impact Report: YES________ NO___X___

D. Scoping (Complete Sections II and III first, before completing this section.)

1. Check those areas which would be important to examine in the event that an EIR is required for this project. This information is important so that significant areas of concern can be identified as early as possible, in order to expedite analysis and review.

	Construction Impacts	Long Term Impacts
Open Space & Recreation		X
Historical		X
Archaeological		
Fisheries & Wildlife	X	
Vegetation, Trees		
Other Biological Systems		
Inland Wetlands		
Coastal Wetlands or Beaches	X	X
Flood Hazard Areas		
Chemicals, Hazardous Substances, High Risk Operations	X	
Geologically Unstable Areas		
Agricultural Land		
Other (Specify)		

	Construction Impacts	Long Term Impacts
Mineral Resources		
Energy Use		X
Water Supply & Use		
Water Pollution	X	X
Air Pollution	X	X
Noise	X	
Traffic		X
Solid Waste	X	X
Aesthetics		X
Wind and Shadow		
Growth Impacts		
Community/Housing and the Built Environment		

2. List the alternatives which you would consider to be feasible in the event an EIR is required.

Differing levels of density.

E. Has this project been filed with EOEA before? Yes _____ No X
If Yes, EOEA No. _____ EOEA Action? _____

F. Does this project fall under the jurisdiction of NEPA? Yes _____ No X
If Yes, which Federal Agency? _____ NEPA Status? _____

G. List the State or Federal agencies from which permits will be sought:

Agency Name	Type of Permit
Army Corps of Engineers	Sections 10 and 404
DEQE	Chapter 91 license
CZM (Mass. Office of Coastal Zone Management)	Consistency Finding

H. Will an Order of Conditions be required under the provisions of the Wetlands Protection Act (Chap. 131, Section 40)?
Yes X No _____
DEQE File No., if applicable: ~~(N/A -~~ not filed to date)

I. List the agencies from which the proponent will seek financial assistance for this project:

Agency Name	Funding Amount
None	

II. PROJECT DESCRIPTION

A. Include an original 8½x11 inch or larger section of the most recent U.S.G.S. 1:24,000 scale topographic map with the project area location and boundaries clearly shown. Include multiple maps if necessary for large projects. Include other maps, diagrams or aerial photos if the project cannot be clearly shown at U.S.G.S. scale. If available, attach a plan sketch of the proposed project.

B. State total area of project: 15.8 acres
Estimate the number of acres (to the nearest 1/10 acre) directly affected that are currently:

1. Developed .... 9.0 acres
2. Open Space/Woodlands/Recreation - acres
3. Wetlands .... - acres
4. Floodplain .... ____ acres
5. Coastal Area .... 6.8 acres
6. Productive Resources
   - Agriculture .... - acres
   - Forestry .... - acres
   - Mineral Products .... - acres

C. Provide the following dimensions, if applicable:
Length in miles - Number of Housing Units 0 Number of Stories 1 to 2

	Existing	Immediate Increase Due to Project
Number of Parking Spaces . total paved area ÷ 350sf	190	200
Vehicle Trips to Project Site (average daily traffic)	75 daily/200 weekend	500 av. daily
Estimated Vehicle Trips past project site		

D. If the proposed project will require any permit for access to local or state highways, please attach a sketch showing the location of the proposed driveway(s) in relation to the highway and to the general development plan; identifying all local and state highways abutting the development site; and indicating the number of lanes, pavement width, median strips and adjacent driveways on each abutting highway; and indicating the distance to the nearest intersection. Existing curb cuts will be used.

III. ASSESSMENT OF POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS

Instructions: Consider direct and indirect adverse impacts, including those arising from general construction and operations. For every answer explain why significant adverse impact is considered likely or unlikely to result.

Also, state the source of information or other basis for the answers supplied. If the source of the information, in part or in full, is not listed in the ENF, the preparing officer will be assumed to be the source of the information. Such environmental information should be acquired at least in part by field inspection.

A. Open Space and Recreation

1. Might the project affect the condition, use or access to any open space and/or recreation area?
Yes _X_ No ____

Explanation and Source:

Hoosac Pier is currently inaccessable to the public. The plan for renovation of the pier proposes a public plaza on the waterfront at the end of Joiner Street with direct access for Charlestown residents. In addition, a walkway will provided along one edge of the pier overlooking the harbor, with views of the Boston skyline.

B. Historic Resources

1. Might any site or structure of historic significance be affected by the project? Yes ____ No _X_

Explanation and Source:

Hoosac Pier is not on the National Historic Register. The project is adjacent to the USS Constitution. Improved access to the waterfront will enhance the historic site.

2. Might any archaeological site be affected by the project? Yes ____ No _X_

Explanation and Source:

No known archeological site is in the project area--piers are constructed of gravel fill and rubble.

C. Ecological Effects

1. Might the project significantly affect fisheries or wildlife, especially any rare or endangered species?
Yes ____ No _X_

Explanation and Source:

With the exception of construction work during the repair of the bulkhead no work will have any effect on fish or wildlife in the harbor. During bulkhead reconstruction precautions will be taken to prevent any pollution of the harbor waters. Any construction floating debris will be contained and recovered.

2. **Might the project significantly affect vegetation, especially any rare or endangered species of plant?**
Yes ______ **No** __X__
(Estimate approximate number of mature trees to be removed: ____________)

Explanation and Source:

There is no vegetation on the site.

3. **Might the project alter or affect flood hazard areas, inland or coastal wetlands (e.g., estuaries, marshes, sand dunes and beaches, ponds, streams, rivers, fish runs, or shellfish beds)?** **Yes** __X__ **No** ______

Explanation and Source:

One alternative presently being considered for the rehabilitation of the bulkhead requires approximately 4,000 cubic yards of fill.

4. **Might the project affect shoreline erosion or accretion at the project site, downstream or in nearby coastal areas?** **Yes** ______ **No** __X__

Explanation and Source:

The extent and dimension of the pier will not be changed significantly. The entire seaward face will be contained by a bulkhead or riprap.

5. **Might the project involve other geologically unstable areas?** **Yes** ______ **No** __X__

Explanation and Source:

The project will be constructed in a previously filled land mass and only minor grading of the site will be required.

D. Hazardous Substances

1. **Might the project involve the use, transportation, storage, release, or disposal of potentially hazardous substances?**
Yes __X__ **No** ______

Explanation and Source:

The building currently on the site is constructed with asbestos cement panels, all of which will be dismantled and disposed of in an environmentally sound manner. The Authority is considering encapsulating the material in concrete on-site.

E. Resource Conservation and Use

1. Might the project affect or eliminate land suitable for agricultural or forestry production?
Yes ______ No __X__
(Describe any present agricultural land use and farm units affected.)

Explanation and Source:

The area is not agricultural.

2. Might the project directly affect the potential use or extraction of mineral or energy resources (e.g., oil, co sand & gravel, ores)? Yes ______ No __X__

Explanation and Source:

There is no such use on or near the site.

3. Might the operation of the project result in any increased consumption of energy? Yes __X__ No ______

Explanation and Source:
(If applicable, describe plans for conserving energy resources.)

The proposed office use of the site is by nature more energy-intensive than the existing warehouse; use of energy conservative exterior materials (insulation, insulating glass, etc.) combined with efficient lighting and heating systems will be used to meet current energy code requirements.

F. Water Quality and Quantity

1. Might the project result in significant changes in drainage patterns? Yes ______ No __X__

Explanation and Source:

The amount of hard surface area (roof or paving) will remain exactly the same as at present or will be reduced slightly by the introduction of landscaped area

2. Might the project result in the introduction of pollutants into any of the following:

(a) Marine Waters .... Yes __X__ No __
(b) Surface Fresh Water Body .... Yes ______ No __
(c) Ground Water .... Yes ______ No __

Explain types and quantities of pollutants.

New construction on the site will include drainage. Surface water runoff will collected and discharged into the harbor after passing through a series of traps

One option for rehabilitating the bulkhead will require 4,000 cubic yards of fill in the area just to the Northwest of the pier. The fill is required to allow the placement of a concrete anchor block system. Without the fill, *

* Continuation on P. 6a

F. 2. Explain types and quantities of pollutants (continuation)

the concrete anchor blocks and tie rods would have to be placed underneath the Chocolate Factory building which is currently owned by the National Park Service. In the absence of the fill, train tracks would also have to be ripped up to allow placement of the tie rods and anchor system.

This fill option could result in the release of suspended solids to the adjacent receiving waters. The clean gravel fill will be placed behind a new steel sheet pile bulkhead which will prevent the dispersal of any material into the surrounding water.

Cleaning and surface preparation of the existing bulkhead will include sandblasting, which will result in the emission of solids to the adjacent waters. Sandblasting will not result in significant water quality problems.

3. Will the project generate sanitary sewage? Yes X No ___

If Yes, Quantity: 25,000 gallons per day

Disposal by: (a) Onsite septic systems .... Yes ___ No X

(b) Public sewerage systems .... Yes X No ___

(c) Other means (describe) ___

(See F6)

4. Might the project result in an increase in paved or impervious surface over an aquifer recognized as an important present or future source of water supply? Yes ___ No X

Explanation and Source:

(See F1)

5. Is the project in the watershed of any surface water body used as a drinking water supply?

Yes ___ No x

Are there any public or private drinking water wells within a 1/2-mile radius of the proposed project?

Yes ___ No X

Explanation and Source:

6. Might the operation of the project result in any increased consumption of water? Yes x No ___

Approximate consumption ___ gallons per day. Likely water source(s) Boston Water Dept. Public Supply

Explanation and Source:

Office:	75 gallon/day per 1,000 sf = 75 x 100 =	7,500	
Restaurant:	50 per seat = 50 x 300 =	15,000	
		22,500	Say: 25,000 gal/day

State Environmental Code

7. Does the project involve any dredging? Yes ___ No X

If Yes, indicate:

Quantity of material to be dredged ___

Quality of material to be dredged ___

Proposed method of dredging ___

Proposed disposal sites ___

Proposed season of year for dredging ___

Explanation and Source:

G. Air Quality

1. Might the project affect the air quality in the project area or the immediately adjacent area?
   Yes _X_ No ___

   Describe type and source of any pollution emission from the project site.

   Increased exhaust fumes from heavier automobile traffic on the site would affect air quality. There will be a decrease in the level of truck traffic from the level of use when the pier housed a warehouse.

   Temporary emissions will result from construction machinery.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by a pollution emissions caused by the project, including construction dust? Yes ___ No _X_

   Explanation and Source:

   The site is east of the Expressway (Route 93) and access roads of the Mystic Bridge. The nearest residential area is on the other side of the Expressway.

3. Will access to the project area be primarily by automobile? Yes _X_ No ___

   Describe any special provisions now planned for pedestrian access, carpooling, buses and other mass trans

   Access to the site will be approximately evenly split between autos and pedestrians. Buses are available within 400 feet of the site in City Square and the site is equidistant from North Station and Community College MBTA stops. It is anticipated that daytime restuarant access will be primarily pedestrians (visitors to the National Park) and at nighttime by automobile.

H. Noise

1. Might the project result in the generation of noise? Yes _X_ No ___

   Explanation and Source:
   (Include any source of noise during construction or operation, e.g., engine exhaust, pile driving, traffic.)

   There would be no significant noise during operation. During demolition and construction noise generated would be primarily due to truck deliveries or use of small engines as power sources.

2. Are there any sensitive receptors (e.g., hospitals, schools, residential areas) which would be affected by noise caused by the project? Yes ___ No _X_

   Explanation and Source:

I. Solid Waste

1. **Might the project generate solid waste?** Yes _X_ No ___

Explanation and Source:
(Estimate types and approximate amounts of waste materials generated, e.g., industrial, domestic, hospital, sewage sludge, construction debris from demolished structures.)

Demolition on the site will result in approximately the following amounts of materials to be disposed of: 37 cu.yds. of asbestos cement panels
275 tons of steel
3,000 cu.ft. of other materials

Trash from operation of the office and restaurant facilities will be:
20 cu.yds. office per day
30 cu.yds. restaurant per day

J. Aesthetics

1. **Might the project cause a change in the visual character of the project area or its environs?**
Yes _X_ No ___

Explanation and Source:

Fifty percent of the site is currently occupied by the warehouse building, a 204,000 s.f., 22' high gray flat sided building ringed with warehouse doors. The new building(s) will utilize the same structural grid, but occupy 32% of the site, the remainder of which will be landscaping and parking area. The building facade will be stepped back toward the harbor view with a significant expanse of glazing and a high quality facing material.

2. **Are there any proposed structures which might be considered incompatible with existing adjacent structures in the vicinity in terms of size, physical proportion and scale, or significant differences in land use?**
Yes ___ No _X_

Explanation and Source:

3. **Might the project impair visual access to waterfront or other scenic areas?** Yes ___ No _X_

Explanation and Source:

The project will improve both the physical and visual access to the waterfront by reducing the amount of site coverage and improving the building itself.

(also see III A.1)

K. Wind and Shadow

1. **Might the project cause wind and shadow impacts on adjacent properties?** Yes ___ No _X_

Explanation and Source:

The building will be predominantly one-story, with some two-story mezzanine areas.

IV. CONSISTENCY WITH PRESENT PLANNING

A. Describe any known conflicts or inconsistencies with current federal, state and local land use, transportation open space, recreation and environmental plans and policies. Consult with local or regional planning authorities where appropriate.

To our knowledge there are no plans by Federal, State or local agencies which are in conflict with this land use. Agencies consulted include:

BRA
Charlestown Neighborhood Groups
State DPW - road design
National Park Service

V. FINDINGS AND CERTIFICATION

A. The notice of intent to file this form has been/will be published in the following newspaper(s):

(Name) Boston Globe (Date) 2/15/82
Charlestown Patriot 2/15/82

B. This form has been circulated to all agencies and persons as required by Appendix B.

1/8/82 Thomas M Galvin
Date Signature of Responsible Officer or Project Proponent

Thomas M. Galvin
Name (print or type)

Address 99 High St.
Boston, Mass. 02110
Telephone Number 482-2930

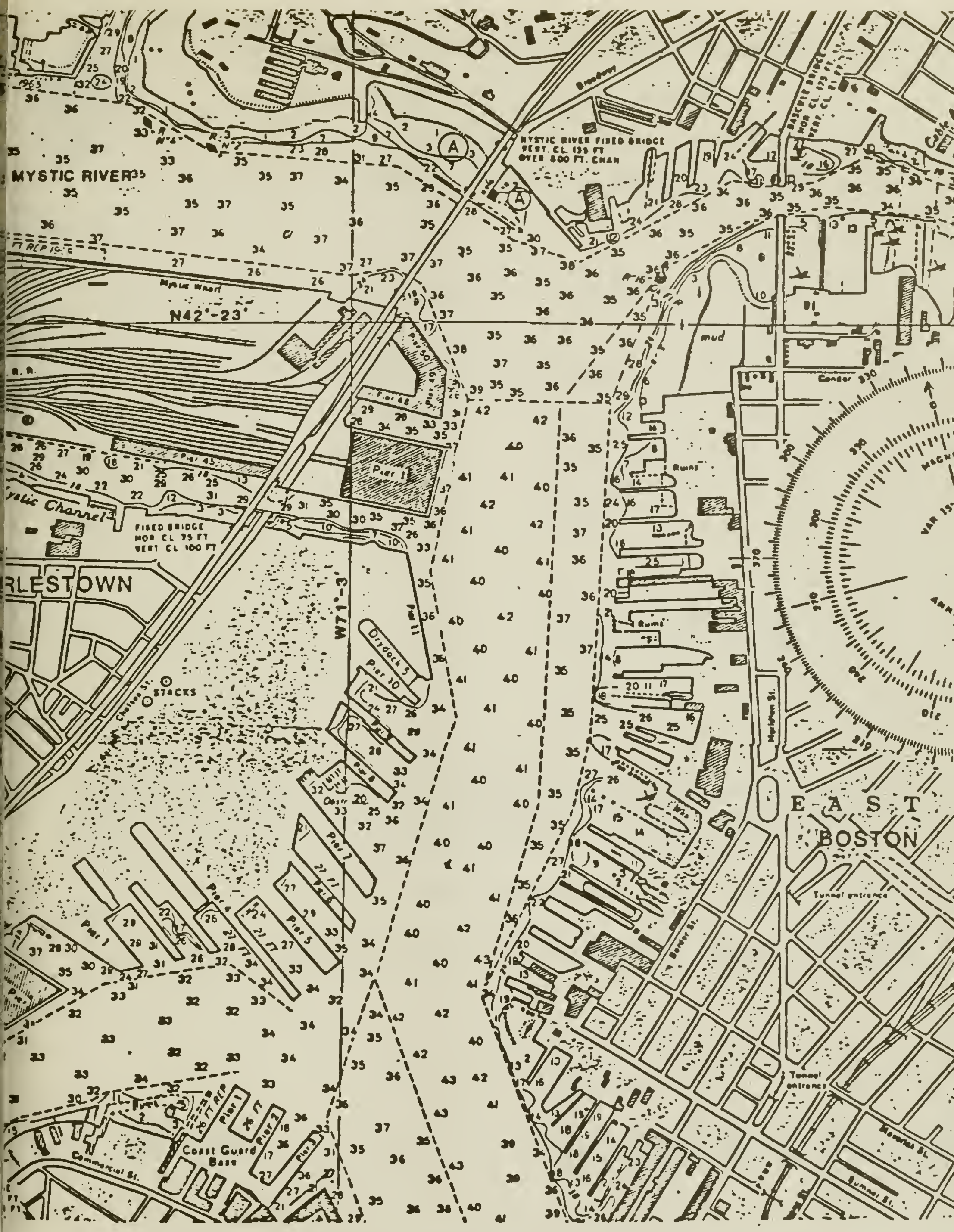
Date
Signature of person preparing ENF (if different from above)

Name (print or type)

Address

Telephone Number


West Everett
EVERETT
Hendersonville
MALDEN
Radio Tower (WILD)
Radio Tower (WHIL)
Drive-in Theater
Sacramone Playground
CHELSEA
Powder Horn Hill
Massachusetts Soldiers Home
Mt Bellingham
Memorial Hospital
Mt Washington
Whidden Memorial Hospital
U S NAVAL HOSPITAL
Island End R
MIDDLESEX CO
SUFFOLK CO
RIVER
MBTA SYSTEM
Malden Bridge
Ryan Playground
Mystic River Bridge (Double-deck)
MYSTIC WHARF
Tollgate
LITTLE MYSTIC CHANNEL
Boston
Inner
BOSTON
Harbor
Charlestown
Bunker Hill Cem
Barry Playground
Breeds Hill
Bunker Hill Monument
U S NAVAL RESERVATION
Drydock
Drydocks
U S NAVAL RES
Old Ironsides
LOCUS
Pier
Charlestown Bridge
Coast Guard Station
SUMNER TUNNEL
CALLAHAN TUNNEL
MBTA TUNNEL
East Boston
East
Jefferies Point
Charles River Dam
Locks
Mass General Hosp
LONGFELLOW BRIDGE
Beacon Hill
City Hall
Customhouse
Old North Ch
North Sta
Library
Eagle Square
Chelsea
Athletic Field
Everett Sq
City Hall
Memorial Stadium
Everett Mem Stadium
REVERE BEACH PKWY
BOSTON



FROM NATIONAL OCEAN SURVEY CHART NO. 248

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

EDWARD J. KING
GOVERNOR

JOHN A BEWICK
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

ON

ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME:	Hoosac Pier
PROJECT LOCATION:	Boston
EOEA NUMBER:	4381
PROJECT PROPONENT:	Massachusetts Port Authority
DATE NOTICED IN MONITOR:	March 22, 1982

Pursuant to M.G.L., Chapter 30, Section 62A and Sections 10.04(1) and 10.04(9) of the Regulations Governing the Implementation of the Massachusetts Environmental Policy Act, I hereby determine that the above referenced project does require the preparation of an Environmental Impact Report. The scope and alternatives for the EIR shall be as follows:

The EIR should deal with the issues raised by the attached comments and Staff Report.

Copies of the EIR should be circulated to all permitting agencies and to those who have commented on the ENF.

4/21/82
DATE

Samuel G. Mygatt, for
JOHN A. BEWICK, SECRETARY

FORM A

STAFF REPORT

EOEA No. 4381
Hoosac Pier
Boston, Charlestown

Based upon the comments received, a site visit and the consultation session, an EIR should contain the following:

TRAFFIC

A. Proposed Access to Pier from Water Street Between the Chocolate Factory and Bunker Hill Pavillion

1. The study area should, at a minimum, include Water Street, Chelsea Street, Gate 1 entrance to Navy Yard, Gate 4, and connections to I-93 and Tobin Bridge.

2. Provide plans showing:
   a. existing conditions
   b. conditions after completion of Chelsea/Water Street connector
   c. propose location(s) of access road to Pier.

3. Describe the purpose and intended vehicular and pedestrian patterns for the proposed access road.

4. Provide daily traffic volumes (ADT) on Water Street, Chelsea Street and and the access road for the project design year and for the design year of the Chelsea/Water Street Connector, and volumes for peak periods of the proposed access road. (Peak periods on the access road may coincide with prime restaurant hours rather than commuter hours.)

5. Evaluate impacts of the proposed access road on;
   a. Water Street traffic flow
   b. traffic flow on the new Connector
   c. pedestrian passage between Bunker Hill Pavillion and the Navy Yard.

6. Identify temporary impacts which would occur in case the project is completed before the Chelsea/Water Street Connector and propose ways to resolve any temporary conflicts.

PARKING

Evaluate the potential for multiple use of parking facilities on the Pier and, if feasible, at adjacent locations.

PUBLIC ACCESS TO WATERFRONT

Describe public access to the waterfront on the Pier, adjacent to the Pier and at Constitution Marina as it exists and as proposed. Examine ways to maximize public access on the Pier. Evaluate potential use of the fill area as improved public open space.

HISTORIC SETTING

Illustrate by comparing photographs and/or sketches of existing and proposed conditions, the visual impact of the proposed development on the USS Constitution from the vantage point MDC park near the southern end of the Charlestown Bridge, and from points along freedom trail crossing the bridge from south to north.

Describe any other visual impacts of the project on historic structures.

CONSTRUCTION ACTIVITIES

A. Describe procedures and materials to be used for repair of the bulkhead. Evaluate the impacts of sandblasting and resurfacing the bulkhead on air quality, water quality, and adjacent boats, structures and activities. Include in the evaluation the approximate volumes of materials which would be released into the air and water and indicate how far they would travel.

B. Identify consturction activities which are likely to produce significant levels of noise.

C. Develop a plan to minimize the impacts of construction activities on the National Park and the Constitution Marina. The plan should address the control of air, water and noise emissions, as well as parking and storage of construction vehciles and equipment. It should, to the extent feasible, attempt to schedule activities which are likely to have detrimental effects on the Park and Marina outside their peak season.

D. Describe plans for the on-site disposal of asbestos cement panels from the existing building. Indicate the volume of disposal material, the volume and precise location of the disposal area and the methods of encapsulation. Explain how information relating to the nature, amount and location of the panels will be permanently recorded.

MITIGATING MEASURES

Describe measures to minimize enviornmental impacts of the project which the proponent proposes to undertake. At a minimum, this section should consider ways to allow increased public access to the waterfront; to reduce visual impacts of the project on landmark structures; and to minimize potential traffic and parking conflicts with park and marina visitors.

PERMITS

Identify all Federal, State and City permits required for the project.

ALTERNATIVES

A. No build, as a baseline

B. No build, but repair bulkhead

C. A building design which maximizes visibility of the USS Constitution

D. An alternative which emphasizes, to a greater degree, use of the Pier for maritime activities

Date

Sandra Uyterhoeven

SU:jc

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

EDWARD J. KING
GOVERNOR

JOHN A. BEWICK
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

ON

DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME:	Hoosac Pier
PROJECT LOCATION:	Boston
EOEA NUMBER:	4381
PROJECT PROPONENT:	Massachusetts Port Authority
DATE NOTICED IN MONITOR:	October 22, 1982

The Secretary of Environmental Affairs herein issues a statement that the Draft Environmental Impact Report submitted on the above referenced project does adequately and properly comply with Massachusetts General Laws, Chapter 30, Section 62-62H inclusive, and the regulations implementing MEPA.

In addressing the issues of public access and the coordination of construction activities with the activities of abutting uses, the Draft EIR analysis was not sufficiently responsive to the scope, to comments on the ENF and comments at public meetings. This is a serious deficiency, since these two issues were among the chief reasons for requiring an EIR. Thus, the adequacy of their coverage will be a paramount consideration in reviewing the Final EIR.

PUBLIC ACCESS

In order to maximize public access to the site, several alternatives have been suggested. The foregoing, and any other alternatives Massport proposes, should be evaluated in the Final EIR.

FORM D

1. Public access around the entire perimeter of the pier on weekdays, weekends and early evening

   A. separation of public walkway from first-floor offices by level differential

   B. separation of public walkway from offices by landscaping and/or fencing

   C. use of reflective windows which would prevent the public from seeing inside the office building

2. Public access around the entire perimeter of the pier during weekends and evenings only, combined with partial access to the pier during weekdays as proposed in the Draft EIR

3. A waterfront public walkway along the northeast boundary of the Constitution Marina parking lot, with appropriate safety features

4. Installation of a floating dock for public landings

In evaluating means of providing access to the public, Massport should examine various ways to resolve the security and liability problems, including the retention of management responsibilities by Massport for areas open to the public. Safety ladders on the face of the bulkhead and protective railings, as well as any other safety features Massport proposes, should be considered for each alternative.

COORDINATION OF CONSTRUCTION ACTIVITIES WITH ABUTTORS

Coordination with abuttors to ensure that construction activities will have the least possible impact on users of the park, the marina and the U.S.S. Constitution is intended to take place during the EIR review process, not afterwards. It is evident from comments that such coordination has not yet taken place. Between the Draft and Final EIR, Massport should attempt to develop, through consultation with its neighbors, a mutually acceptable construction schedule. The schedule should show how Massport will carry out its intention to undertake activities generating the greatest amount of noise, dust and truck traffic during park and marina off-hours and, where possible, off-seasons. It should resolve the apparent conflict between sandblasting the bulkhead and painting the U.S.S. Constitution. I suggest the schedule be presented in the format of a matrix, listing each construction activity of significant import and indicating its proposed timing and duration.

BUILDING HEIGHT

Although the Draft EIR states that views of the U.S.S. Constitution will be at least as good as they are now from any of the illustrated vantage points, the series of perspective sketches and the figures provided at Massport's meeting on November 3, 1982 indicate that this will not be so. Please clarify this discrepancy by providing, in the Final EIR, the exact heights of existing and proposed structures, including housing for mechanical equipment,and clarifying illustrations showing the amount of view subtended. If the proposed building height exceeds the

height of the existing building, thereby lessening visibility of the Constitution, evaluate mitigating measures (use of a heat pump to eliminate the need for housing of mechanical equipment on the roof; locating the housing for mechanical equipment toward the landward side of the building). The commitment (page 64) not to exceed a 65-foot building height restriction is not a mitigating measure. Any height remotely approaching 65 feet would be a disaster.

TRAFFIC IMPACTS

Comments have identified flaws and questionable assumptions in the traffic analysis. However, it is evident that, whatever the methods used or the assumptions made, additional analysis of existing and future background traffic conditions and street patterns can only substantiate what is already well known: traffic in the project area exceeds acceptable levels during extended commuter periods and will probably continue to do so. Given this situation, what options are appropriate? It is on this question that the EIR should focus.

One alternative is not to build. Trade-offs need to be weighed to determine whether negative traffic impacts of the project outweigh potential benefits, such as repair and maintenance of the bulkhead, visual enhancement of the area and increased compatibility with adjacent uses. Massport should concentrate its efforts during the EIR process on strengthening these and other areas of potential benefit.

Any development alternative will worsen traffic conditions. Therefore, another objective of the review is to identify a development alternative which generates a minimal amount of peak period traffic and puts into effect all feasible traffic reduction measures.

Although it appears unproductive to pursue further the analysis of background traffic conditions, it is essential, in order to evaluate the impact and identify appropriate mitigation, to obtain a more accurate assessment of the traffic numbers generated by the project than was presented in the Draft EIR. Specifically,

1) the relatively low number of office employees per square foot should be substantiated or, a higher, worst-case number should be used;

2) the assumed 47% use of public transit should be reevaluted in view of the lack of public transportation within easy walking distance;

3) the assumptions that auto occupancy will be the same as in the Central Business District and that employees who reside in Charlestown will walk to work should be reexamined and revised as necessary.

The Draft EIR does not address the requirement of the TRAFFIC section of the Scope (numbered A.5 a and b) to evaluate impacts of the access road on Water Street traffic flow and on the new connector. Please do so in the Final EIR.

MITIGATION OF TRAFFIC IMPACTS

1. The analysis in Appendix B makes a good case for a traffic signal at the Chelsea-Joiner Streets intersection, and Massport proposes the signal as a mitigating measure. The Final EIR should confirm whether Massport will assume financial responsibility for the signal. I request that Massport discuss with the appropriate City of Boston department whether, based on the revised traffic generation figures, the City will allow installation of the signal. The outcome of the discussion should be reported in the Final EIR.

2. A shuttle bus appears to be the best way to promote the use of public transportation. Massport should complete its exploration of this possibility and state in the Final EIR whether or not there will be a commitment to the measure. If so, it should explain how the shuttle bus proposal will be implemented and propose specific destinations.

3. Discuss in the Final EIR whether a flextime office schedule might be beneficial.

4. Is water-based transportation, suggested by CZM, a viable option? If so, this would have the added advantage of increasing the emphasis on use of the Pier for maritime activities.

ADDITIONAL COMMENTS

1. The Final EIR text and plans should reflect the project changes discussed at Massport's November 3 meeting;

   - elimination of the proposed harbor filling;
   - changed location of the restaurant driveway;
   - parcels involved in the proposed land swap with the National Park Service.

2. What caused the 16-18 inch void under the relieving platform? Is it likely to reoccur?

3. What are Massport's plans with respect to the railroad spur line? The National Park Service would like the tracks to remain in place for its long-term use. Please evaluate this possibility.

4. Please include comments on the Draft EIR, and numbered responses to the comments, in the Final EIR.

5. Based on the Draft EIR, on the additional evaluation required by this Certificate and on the appended comments, update the list of mitigating measures which Massport will undertake.

December 2, 1982
DATE

Samuel G. Mygatt, for
JOHN A. BEWICK, SECRETARY

Response to: JOHN A. BEWICK
Secretary of Environmental Affairs

Public Access

The public access component of the DEIR has been changed to reflect concerns raised during the comment period. See the new public access section on page 73. It describes options including landscaping and use of reflective glass to increase public use of the facility. A three-story building alternative with a smaller footprint which would facilitate better public access is also described.

Coordination of Activities with Abuttors

Charts showing the schedule of the bulkhead and building construction and its impact on Hoosac Pier's neighbors are on pages 47 and 48 of this FEIR. The sandblasting of the east edge of the bulkhead will not begin until August, after work on the U.S.S. Constitution is completed. This schedule was discussed with Commander Sudholz at a meeting with Massport staff on December 20, 1982. He agreed that this schedule was acceptable to him.

Building Height

The two story building will be approximately 30 feet high with mechanical equipment extending to a maximum of 14 feet above the roof. The three-story building will be approximately 45 feet high, with mechanical equipment extending a maximum of 14 feet above the roof.

Traffic Impacts

The trip generation analysis has been revised to reflect concerns raised in the comments about employee density in the office building, the number of employees using public transit, the auto occupancy rate and the method by which Charlestown residents would commute to Hoosac Pier. See the Traffic Impact Section Page 49, and response to the Boston Redevelopment Authority's comments.

The DEIR did assess the impact of the access road on Water Street traffic as requested in the MEPA scope. The "access road" is a driveway to the restaurant parking area. On Page 46 of the DEIR in the paragraph beginning "Restaurant patrons will enter the site", the DEIR states that the restaurant will generate little new vehicular traffic during the day and that most of the evening patrons will arrive after the P.M. peak hour traffic has subsided. The DEIR specifically states on Page 24 that the two driveway scheme "should have no adverse impact on Water Street flow".

Further, the DEIR states on Page 46 that restaurant traffic will not adversely affect traffic flow on Water Street or City Square. By inference, the restaurant driveway would not adversely affect that traffic either. The driveway will not have a negative impact on Water Street in its current configuration or under the Chelsea Water lay-out.

As for the choice of a development alternative with the least impact on poor traffic conditions in the area, the Authority has considered and rejected the no-build solution because this results in the possible disintegration of a real property asset with adverse consequences for the U.S.S. Constitution resulting from debris emanating from the deteriorating pier structure. The reuse decision was made in view of surrounding developments and was designed not to compete with, but to complement redevelopment activity in the Charlestown Navy Yard. Thus a hotel or major retail area was deliberately dropped from the uses considered. Such uses might have resulted in fewer peak hour trips, but these are part of the long range plan for the Navy Yard. Furthermore, the hotel would provide fewer opportunities for jobs with growth potential for Charlestown residents.

The new development must generate enough cash to pay for the bulkhead repair. A warehouse would not meet this criterion and although a warehouse would generate truck traffic which might avoid peak hour traffic congestion periods, the job generation potential is limited. Furthermore the opportunity to provide public access to the water's edge would be limited if a warehouse operated at Hoosac Pier. The warehouse would obviously not result in visual enhancement of the site as viewed from other waterfront locations, nor would it complement the National Park Service and BRA plans for the Navy Yard.

The preferred course appears to be the chosen alternative with major effort directed to improving public access to the site and to minimizing peak hour departures from the site during the evening.

Traffic Impact - Mitigation

The traffic signal proposed for the Chelsea-Joiner intersection has been discussed with officials in the City of Boston Traffic and Parking Department. The City appreciates the problem which has been identified, is studying the Authority's trip generation estimates and will be analyzing the intersection independently before the installation can proceed. The Authority is prepared to assume the cost of installation of such a signal if necessary.

The developer has agreed to set aside priority parking spaces for car pools and is currently negotiating with the operator of the Navy Yard Shuttle Bus. The developer would use the shuttle as a way to get employees from the financial district and Haymarket to Hoosac Pier and back.

A flex-time office schedule would obviously alleviate peak hour traffic impacts from Pier development. However, the developer cannot commit to flex-time without knowing his tenants and their particular needs. The developer understands the desirability of flex-time scheduling and will discuss this in lease negotiations.

The CZM recommendation for water based transportation is a worthwhile one, but it cannot be established to serve Hoosac Pier alone. Hoosac is only one of several Boston Inner Harbor locations which might be well served by a water taxi or ferry. The Hoosac development is consistent with such a system in that space could be made available for taxi-docking purposes. The Authority and other Harbor interests are in the process of studying water transportation systems but no single system has been defined to date. The water transportation system serving Hoosac could reduce auto trip generation and expand maritime activity on the site. The developers have expressed an interest in working on the planning for such a system.

Removal of Asbestos Panels

Discussions relative to the handling of decaying asbestos panels were initiated with DEQE regional air quality staff approximately one year ago. The Hoosac Pier site was inspected by DEQE staff specifically for the panel removal issue. It should be noted that the nature of the asbestos material is such that it will not pose a significant environmental problem. The panels are asbestos cement, which differs dramatically in physical properties from friable asbestos. The panels will ultimately be disposed of in a secure landfill facility. The contractor will be required to identify a disposal site and demonstrate the approvability of such a site.

Additional

1. The following changes have been made:

    a. the plans reflect the elimination of the harbor fill;

    b. the location of the restaurant driveway has been shown correctly in the FEIR;

    c. parcels involved in the proposed land swap with the National Park Service are shown in Figure 3.

2. The voids were created by normal consolidation of the original fill and the transport of sediment through inoperative flap valves. The voids will not recur since the consolidation has stopped and new relief valves will be designed to limit the escape of sediment.

3. The Authority is negotiating the purchase of the land under the B&M tracks, but the railroad would retain an easement to the tracks, subject to certain conditions such as trains only crossing the site at night.

4. See responses to comments.

5. See the updated list of mitigating measures.

PROJECT

SUMMARY

PROJECT SUMMARY

The Massachusetts Port Authority (Massport) is owner and operator of the 15.72 acre property known as Hoosac Pier, located in Charlestown, Massachusetts (Fig 1). The pier itself was built in 1949. The Bunker Hill Pavilion leases 42,704 square feet of land adjacent to Constitution Way, formerly Water Street; and Constitution Marina leases 194,000 square feet of water (Fig 2). The pier shed is currently vacant and obsolete for its original purpose as a maritime cargo distribution center.

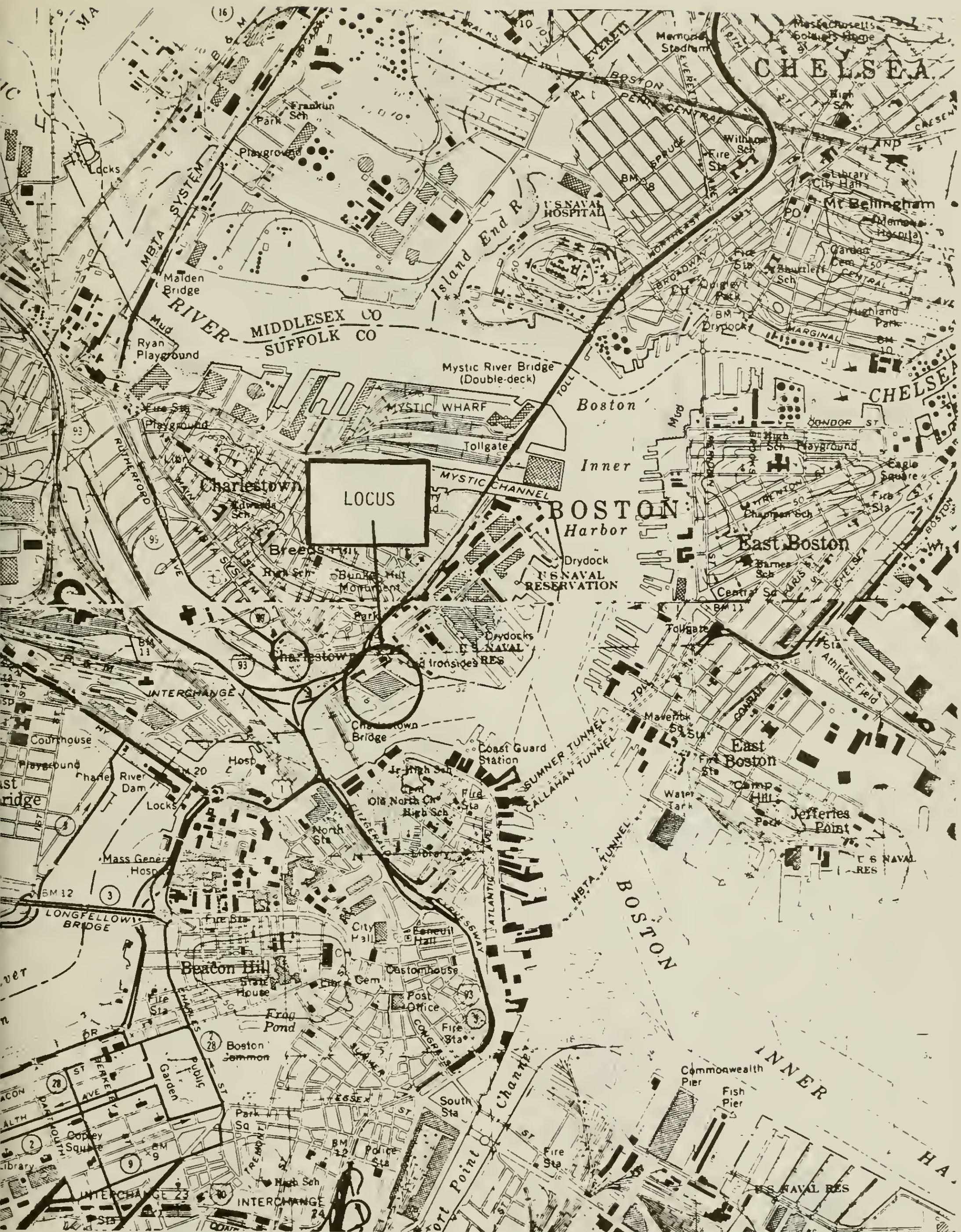
Massport proposes to rehabilitate Hoosac Pier as a commercial office and restaurant complex. The plan provides for public access to the waterfront, the creation of open space overlooking the marina and the retention of the marina and the Bunker Hill Pavilion. The proposed re-use is consistent with Massport's policy to return underutilized seaport facilities to revenue producing status to offset the Authority's maritime deficit.

Massport's proposed alternative includes the construction of a two-story, 130,000 square foot office building and a three-story, 30,000 square foot restaurant/office building overlooking the U.S.S. Constitution. The 8000 square foot restaurant will seat approximately 275 people. The existing 185 slip marina and the Bunker Hill Pavilion will remain at the site. There will be 341 parking spaces available on the pier for patrons and employees of the offices and restaurant with another 67 spaces for office and marina use on the west parcel (Fig 3).

Any action taken on the pier will include immediate rehabilitation of the bulkhead because of its poor structural condition. Delay in the bulkhead reconstruction could seriously undermine the structural integrity of the pier itself and create a dangerous situation for adjacent structures and nearby marine craft, and adversely affect the development options available to the Authority. Delays will also result in more extensive and more costly rehabilitation in the future. To repair the bulkhead, sandblasting is required to remove the existing rust on the bulkhead surface before a new protective coating can be applied.

Construction activities for the site under the proposed alternative include demolition of the pier shed which entails the removal of asbestos cement panels. The primary environmental impacts from this demolition and new construction will be noise and air pollutants generated by truck traffic and machinery. These impacts will be temporary and insignificant.

Until the early 1970's Hoosac Pier was an active break-bulk cargo facility. Several hundred people worked at Hoosac and unloading operations generated as many as 200 truck arrivals per week. Since that time warehousing operations have generated a great deal of truck traffic, although few people have worked full-time at the site.



HOOSAC PIER
Location Map

Figure 1

N

p.2

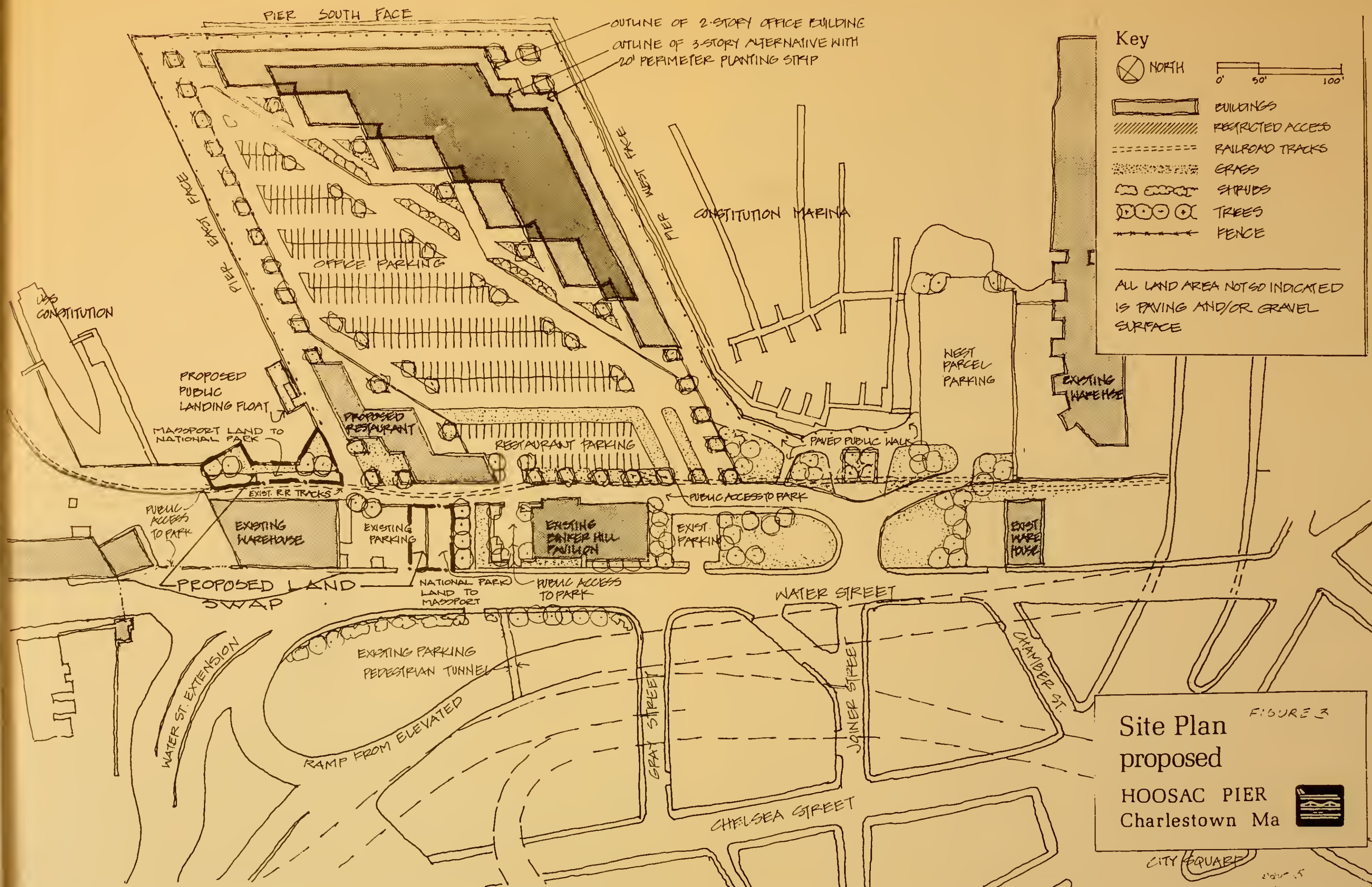
FIGURE 2

Site Plan existing

HOOSAC PIER
Charlestown Ma

Once the proposed alternative is completed, the continuing impacts will be the increase in traffic to and from the site compared to current levels, and the air pollutant emissions generated by it. Mitigating measures to alleviate this include the promotion of car pooling for employees through preferential parking on the site and tenant participation in the MBTA pass program.

The benefits that accrue to the community from the proposed alternative are pedestrian access to the waterfront linked to the Charlestown Navy Yard and the U.S.S. Constitution, and a significant investment in the City Square area which should stimulate other new development. The Authority is committing to the provision of access to the entire perimeter of the pier except under special circumstances such as inclement weather. This will provide a major new area for harbor-viewing. Site improvements including landscaped areas and increased security will make the area more attractive and safe. The development will provide new job opportunities for Charlestown residents both on and off the site. The complex will be compatible with and complementary to other new development both in City Square and along the waterfront.



Site Plan
proposed

HOOSAC PIER
Charlestown Ma

PURPOSE AND NEED
FOR ACTION

1.0 PURPOSE AND NEED FOR ACTION

1.1 Introduction

The challenge in redeveloping Hoosac Pier was to determine the market and economic feasibility of future options for a seriously deteriorated facility. Objectives to be met included the generation of economic benefits for the region, the City, and Massport, while respecting density constraints, enhancing other development in the area and addressing community concerns for the waterfront. The proposed alternative is a development concept that not only meets the challenge but provides a significant positive impact on the Charlestown community (Fig. 3).

1.2 Immediate Site Considerations

Bulkhead Rehabilitation - The bulkhead at Hoosac Pier is in critical need of immediate and extensive rehabilitation work. The structure has deteriorated to the extent that without repair the bulkhead will fail and any development on the pier will be impossible. Rehabilitation of the bulkhead will cost approximately $4.3 million. A decision to delay repair to the bulkhead now not only will preclude development, but also will jeopardize the structural integrity of the facility for any purpose. Postponed rehabilitation will be more extensive and therefore more costly.

1.3 Community Concerns

Hoosac Pier's highly visible location makes it a strategic element of the revitalization of both Boston Harbor and the Charlestown community. The State, the City, the Federal Government, the community and private developers are all involved in projects that will dramatically change the face of the Charlestown waterfront. Development activities on adjacent sites include:

- BRA mixed-use revitalization of 105 acres of surplus land, buildings, piers, drydock and water rights in the former Boston Naval Shipyard/Charlestown;
- The National Park Service improvements to the Boston National Historical Park in Charlestown, site of the U.S.S. Constitution;
- The proposed depression of the north section of the Central Artery in City Square;
- Plans for redevelopment of Rapids Warehouse;
- North Station redevelopment;
- MDC open space projects in Charlestown and the North End;

- Ongoing growth and revitalization of the Charlestown community.

Massport must be sensitive to these existing and planned projects, and failure to improve the existing conditions at Hoosac Pier will detract from surrounding development activity.

1.4 Hoosac Pier Planning Progress to Date

In 1979 the firm of CBT/Childs Bertman, Tseckares and Casendino, Inc. was hired to conduct a feasibility study to assess the existing conditions and reuse options for Hoosac Pier. CBT and its engineers, Parsons, Brinckerhoff, Quade and Douglas studied the physical condition of the bulkhead, soil conditions, the substructure, the relieving platform and the shed itself. Design guidelines for future use were developed, and use options were evaluated.

When the study began the following policy assumptions, developed by Massport staff, directed the Consultant's analysis of density and use options:

1. The project should generate jobs for the City and the region;

2. The project should complement and not compete with other Charlestown developments, especially the new housing at the Charlestown Navy Yard;

3. The project should be compatible with the community's objectives for the waterfront;

4. The project should generate a positive cash flow for Massport;

5. All parking generated by the development of Hoosac Pier should be accommodated on the site;

6. The Charlestown urban renewal height guideline of 65 feet should be respected.

While CBT focused its study on the physical condition of the pier, site planning and design issues, Massport staff attempted to identify a use for the site that would fit the physical capacity of the pier, the legal constraints and the above-outlined assumptions. They concluded that Hoosac Pier should be marketed as an office or research and development site.

As part of its study, CBT evaluated the feasibility of three density options for the redevelopment of the pier. The proposed alternative corresponds to a moderate density option outlined by CBT. The maximum development scheme assumed a floor to area ratio (F.A.R.) of 2.0, or, 838,000 square feet of building space.

Under a maximum development scheme, the existing shed and slab would be removed and new piles would be driven for four, five and six-story buildings on the site. A three-story building could be supported on spread footings. A four-level parking garage was included in this scheme to accommodate the cars which would be generated by a development of this size.

Because new piles are extremely costly, it is not economically feasible to pursue this high density alternative. The buildings would have to be at least 12 stories high to pay for the installation of new piles, a height which violates the 65 foot height constraint.

For this reason, as well as a judgment that there was no market for such a large development on the Charlestown waterfront, further investgation of the high density option was dropped. The environmental effects of the option have therefore not been studied or included in this report. It is fair to say, however, that the impacts on traffic, noise, air and water quality and the historic setting of Hoosac Pier would be substantially greater both during construction and after completion of a high density option than the impacts of the proposed alternative.

PROJECT
SETTING

2.0 PROJECT SETTING

2.1 Hoosac Pier History

Massport owns the 15.72 acre Hoosac Pier facility located on Constitution Way, formerly Water Street, in Charlestown adjacent to the Charlestown Naval Shipyard. The site includes 6.2 acres of pier area, 6.72 acres of wäter area, and 2.8 acres of backland.

The pier, measuring 535 feet in length by 515 feet in width, sits on earth fill retained by a steel sheet bulkhead. Timber fenders surround the pier and it is decked with bituminous concrete aprons 25 feet wide on each side and 20 feet wide at the end. The shed is single story, steel-frame, concrete wall and asbestos siding construction with a concrete floor. In the northeast and northwest corners of the shed are two-story concrete block headhouse structures. The shed has an interior height of 20 feet and two depressed rail tracks run through its center. The design capacity of the pier is 600 psf. The interior area of the shed is 172,500 square feet not including the rail well that served the shed. The interior columns are spaced every 30 feet the length of the pier shed, and every 60 feet across the width of the shed.

Hoosac Pier was acquired by the Authority from the Port of Boston in 1959 as an original port property under the Massport Enabling Act. The facility was originally developed by the Boston and Maine Railroad which shipped grain from the Hoosac Grain Elevator as well as general cargo and ice. The present pier shed was constructed in 1950 on the site of the former Hoosac Tunnel Docks. Until 1972 Hoosac was used for the receipt and shipment of waterborne break-bulk general cargo. The opening of the John F. Moran Container Terminal in Charlestown in 1972, and the increase in containerization of cargo in the Port of Boston have resulted in a decline of break-bulk general cargo, and a decrease in cargo handling at Hoosac. Break-bulk cargo is now consolidated at Massport's Conley Terminal in South Boston, and Hoosac Pier has been leased for non-maritime uses in recent years.

2.1.1 Cargo Volume

Cargo ceased to be shipped through Hoosac Pier in 1973. Previous years' shipments were as follows:

	Tonnage	Import	Export
1969	23,953	23,429	524
1970	23,468	19,627	3841
1971	30,442	28,825	1617
1972	14,596	13,389	1210

From these figures it is apparent that the most intensive use of the pier in this period occurred in 1971, the year before Moran Container Terminal commenced operations.

Since Hoosac Pier was closed to shipping operations, space at the facility has been leased to one water-dependent use, the Constitution Marina, and other non-water dependent uses including warehousing and the Bunker Hill Pavilion operated by the Raytheon Historic Foundation. The warehousing uses were served primarily by truck and were not dependent on the Boston and Maine rail line which traverses the property.

2.2 Current Condition

Shed

The two-story concrete block structure inside the shed shows signs of settlement, as do the retaining walls along the depressed track, the track beds and the shed floor.

Bulkhead

A thorough analysis of the bulkhead system was conducted in 1980 with the following findings:[1/]

1. The steel sheet pile bulkhead has deteriorated and requires extensive rehabilitation to limit further deterioration;

2. Corrosion of the bulkhead averages 10 to 20 percent steel loss with localized corrosion of over 40 percent;

3. Severe corrosion is evident on the bulkhead's connecting nuts;

4. None of the three cathodic protection units is operating;

5. From consolidation of the soil below the fill, a 16 to 18 inch high void has formed under the relieving platform;

[1/] Bulkhead Condition Report--Hoosac Pier, prepared by CBT for Massport, 1980.

6. Most of the relieving check valves under the relieving platform are broken, allowing free exchange with the harbor water and providing an environment which encourages marine borer activity.

The immediate repair of the bulkhead as recommended in the CBT report included:

1. Inspection and evaluation of the timber piles under the relieving platform;

2. Repair, if necessary, of the timber piles and filling of the void with either a sand slurry or concrete grout;

3. Installation of a new water-relieving system;

4. Installation and maintenance of a new cathodic-impressed current protection system;

5. Inspection and replacement, if necessary, of the connecting nuts and bolts.

After further analysis by engineering consultants it was determined that the cost of the rehabilitation of the bulkhead would be about $4.3 million at current prices, plus an annual maintenance cost after construction of $50,000. The specific program of improvements for the bulkhead is outlined on page 41.

2.3 Financial Assessment

The bulkhead repairs and the filling of the void under the relieving platform are necessary regardless of the nature of reuse if the pier foundation is to be maintained. The estimated $4.3 million bulkhead repair is a major expenditure which cannot be amortized by rents currently accruing to the Pier since, as shown on the following page, even without such a substantial debt service burden operating costs are no longer covered by rent receipts.

Fiscal 1981 Operating Costs were as follows:

HOOSAC PIER

Expense	Fiscal 1981
Materials	$ 189
Repairs	6,704
Services, including security	5,276
Payment in-lieu-of taxes allocable to Hoosac	89,244
Utilities not passed through to tenants	11,942
Total Operating Expenses	$113,355

The rent revenues to offset these expenses in that year were:

Bunker Hill Pavilion	$10,000
Constitution Marina	24,000
Dis-Con (Shed) including fees	124,236
Total Revenue	$158,236 [2/]

In as much as actual rent revenues barely met operating expenses in Fiscal 1981, any bulkhead repair work would render Hoosac Pier a drain on the Authority's operations. The Fiscal Year 1983 revenue/cost ratio makes a reuse strategy for the Pier more crucial in as much as the relocation of Dis-Con from the shed results in a substantial reduction in rent receipts.

The Authority recognizes that a re-use of the property is appropriate because the current operation is fiscally unsound and because the physical configuration of the terminal is inappropriate for today's cargo handling needs. Currently, waterfront property is being upgraded throughout the Inner Harbor. The area adjacent to Hoosac Pier is undergoing improvement under the auspices of the National Park Service which

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[2/] Dis-Con moved from Hoosac Pier in January 1982, and the shed is currently empty.

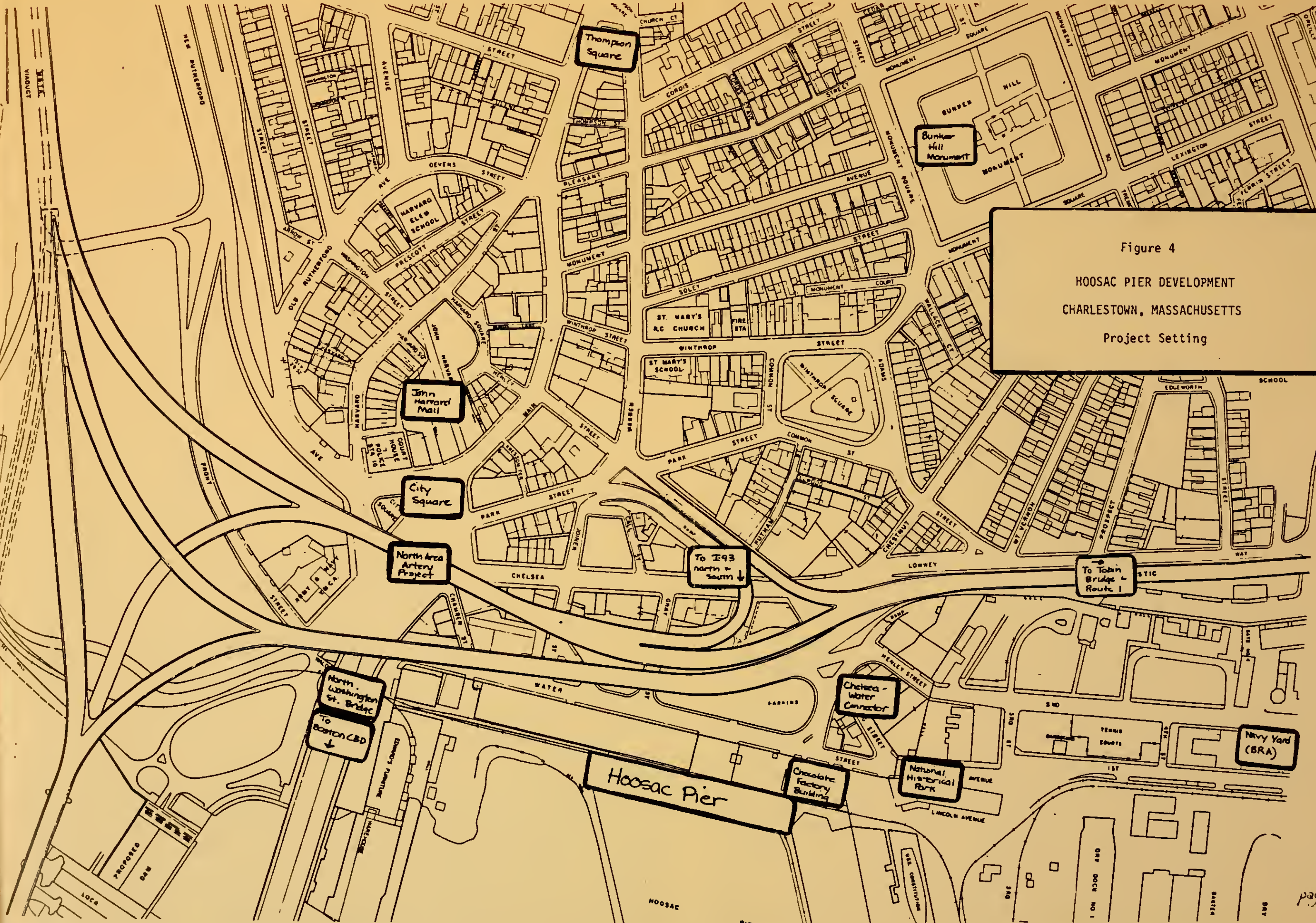


Figure 4

HOOSAC PIER DEVELOPMENT

CHARLESTOWN, MASSACHUSETTS

Project Setting

closed out by the U.S. Department of Housing and Urban Development and the Boston Redevelopment Authority. That program was designed to eliminate blighted and deteriorated sections of the community and to provide the public improvements necessary to stimulate private investment. One of the program elements was the removal of the elevated MBTA Orange Line which traversed City Square in Charlestown, and followed the Main Street right-of-way to Sullivan Square. The removal of the "El" sparked interest in the rehabilitation of properties around Main Street. This coincided with a period of new interest in historic preservation.

The area from City Square to Thompson Square is now attractive to young professionals desirous of living within walking distance of their downtown offices. Certain larger commercial buildings in City Square are now vacant or underutilized awaiting resolution of the funding question for construction of the North Area Artery Project. This highway project, proposed by the Massachusetts Department of Public Works would eliminate the viaduct structure from City Square, making existing real estate here more attractive and creating new parcels of land for development.

2.5 Historical Significance of Charlestown and Hoosac Pier[3/]

Charlestown, first settled in 1629 was the first enclave of the Massachusetts Bay Colony on Boston Harbor. Great House was erected in City Square to be the seat of government before John Winthrop, governor of the new colony, arrived in 1630. Charlestown has been the site of many important historical events, particularly battles fought during the Revolutionary War. Charlestown was a busy port until late in the eighteenth century when it succumbed to the competition from Boston. It was the home of John Harvard whose library formed the nucleus for Harvard College. Wealthy sea captains and shipowners settled in Charlestown during the Golden Age of Sail because of the view of the harbor from their homes on its hills. Charlestown was the site of the nation's first naval shipyard, the establishment of which spawned a number of industrial and maritime related facilities near the Navy Yard. Large blocks of tenement housing were built to shelter the immigrants who came to Charlestown to work in the Navy Yard. The Navy Yard's history has shaped Charlestown over time. For example, in World War I, when more workers were hired to launch new ships from the Navy Yard, some of the nearby tenements were converted to rooming houses,

3/ For an in-depth discussion of the history of Charlestown, please see "Historic Overview" by Claire W. Dempsey in Final Report, Phase II Archaeological Site Examination of the Project Area for the Central Artery, North Area, Charlestown, Massachusetts Peabody Museum, Harvard University 1982.

plaza and mature trees are closely framed by the familiar brick rowhouses so prevalent in the Town Hill/Breed's Hill section of Charlestown. The mall and surrounding properties are listed on the National Register of Historic Places.

2.6 Public Access

Hoosac Pier is currently fenced in, and there is no public pedestrian access to the waterfront edge at the site. Much of the water owned by Massport is leased to the Bosport Docking Company, which operates Constitution Marina. Access is limited to boat owners and their guests. There is public access to the waterfront along the water's edge in front of the Chocolate Factory Building, which is part of the walkway from the National Park. The best access to the waterfront in the vicinity of the Hoosac site is in the Navy Yard property near the U.S.S. Constitution.

Pedestrian access from the U.S.S. Constitution and the National Park Service Visitor Center to the Bunker Hill Pavilion passes along the waterfront edge, as well as on the Water Street side of Hoosac Pier. During the summer months the number of visitors to the U.S.S. Constitution averages more than 3500 per day with a portion of these tourists also visiting the Bunker Hill Pavilion.

2.7 Area Transportation Network

Charlestown has historically been an important path to the North from the City of Boston. As new modes of transportation have been incorporated into the region's transportation network, they have almost always included major links or routes through Charlestown. In the 1700's, the construction of the Charlestown Bridge provided pedestrian access between Charlestown and Boston. In the late 1800's the railroad and streetcar arrived, and two additional bridges were constructed. One bridge crossed the Mystic River into Chelsea, and a second crossed the Charles River to Boston, again making Charlestown the funnel for regional access. During the early 1900's, the Boston and Maine Railroad Yard in Charlestown was greatly expanded and facilities for storing and shipping grain were constructed on the site of the present Hoosac Pier. These facilities were geared to transport cargo from rail to ship, and resulted in the local community being shut off from the Waterfront. In the early 1950's construction of the Mystic/Tobin Bridge marked the beginning of a period of construction of regional highway projects through Charlestown. The highway projects have insulated the Charlestown community from the water surrounding the peninsula. Viaduct structures exert an overwhelming presence in Charlestown, and have contributed to the physical deterioration and economic decline of certain parts of the community. The City Square area has been particularly affected. Once the government seat for the new Massachusetts Bay Colony and then a major open air market

place, City Square eventually became an important commercial node serving shipyard employees and providing services related to shipyard activities. It was a major stop on the elevated Orange Line and provided local residents and those working in Charlestown with retail services. With the removal of the "El" and the closing of the Navy Yard, City Square has ceased to be a destination point and is now a space through which to pass enroute to somewhere else. Charlestown residents are working to change this image and to restore City Square to its former prominence as a gateway to their community.

Currently there are plans to remove the elevated highway from City Square in order to improve traffic safety in the merge between the Tobin Bridge and I-93 traffic, and in the process, to provide new development opportunity in City Square. By removing the viaduct from City Square, the North Area Artery Project will enhance the desirability of the area for redevelopment and historic preservation, as well as provide a direct pedestrian and vehicular connection between the Charlestown community and the Waterfront.

A second highway project which is underway, the Chelsea-Water Streets Connector, will provide a direct link between Water and Chelsea Streets and will facilitate access to the Charlestown Navy Yard, and the Massport-owned Moran Container Terminal located adjacent to the Mystic River. The project will eliminate the need for Navy Yard and Moran Terminal traffic to traverse local streets in Charlestown, particularly Lowney Way. This will improve public safety and reduce the air pollution and noise impacts created by such traffic.

DESCRIPTION

OF

ALTERNATIVES

3.0 DESCRIPTION OF PROPOSED ALTERNATIVES

Three alternatives for the redevelopment of Hoosac Pier are analyzed in this Environmental Impact Report. They are based on the EIR Scope issued by the Secretary of Environmental Affairs on April 21, 1982. A fourth alternative which was discussed in detail with MEPA staff in May, 1982 is the same as Alternative C and will not be addressed separately, as confirmed by MEPA staff in conversation on September 27, 1982.

Within the discussion of Alternative C, the proposed alternative, are certain issues raised in the EIR scope. The plans for the restaurant driveway are detailed in this description of the proposed alternative, because the driveway is not an access road in the conventional use of that term, and the Authority wants to clarify the nature of the driveway early in the EIR. The proposed alternative section also includes a discussion of the visual impacts and historical resources impacts from the construction of the office/restaurant complex because the recommended alternative clearly responds to constraints which are not always imposed in a development project.

3.1 Alternative A

No Build

Under the No Build alternative, which assumes the continuation of Hoosac Pier's present uses with no rehabilitation of the bulkhead or building, the bulkhead deterioration will continue to the point of failure, and the cost of any future rehabilitation will increase dramatically. If the bulkhead is not repaired, the fill under the pier will begin to escape through holes in the steel sheet pile and the pier will eventually collapse, creating a dangerous situation for adjacent structures and nearby vessels.

The pier shed is also in disrepair. The 30-year old roof is nearing the end of its useful life. The asbestos sheet siding is deteriorating and threatens to expose an environmental hazard to the harbor and the community. Under these conditions Massport cannot lease the shed, even for warehouse use.

If the deterioration of the bulkhead and pier shed is allowed to continue, there is a possibility that when the current marina operator's lease expires in 1986, no marina operator could locate at Hoosac Pier. The current operator has security and safety concerns, which will increase the longer the rest of the site is vacant.

Under the No Build alternative, the Authority will have operating expenses which cannot be offset by revenues, and Hoosac Pier will continue to add to Massport's port deficit rather than decrease it. Even when the pier shed is empty, electricity is

A 30,000 square foot three-story restaurant/office building, will be sited on he northeast corner of Hoosac Pier overlooking the U.S.S. Constitution. The restaurant will seat 275 patrons who will have a magnificent view of the ship.

There will be 341 parking spaces provided on the pier for office workers and restaurant patrons. Marina patrons may use some of the 67 spaces on the west parcel, next to Rapids Furniture Warehouse. Some parking spaces could be made available for National Park Service visitor parking on weekends under an agreement between the National Park Service and the developer.

Alternative C also provides for continuous public access along the the perimeter of the Pier during certain hours, and a substantial open space area at the entrance to the site.

3.3.1 Restaurant Driveway

The National Park Service comment on the ENF for this project expressed concern about the "access road" to the site and its potential for conflict with the safety of pedestrians visiting the National Park Service site and the Bunker Hill Pavilion. In fact the access road is only a driveway to the restaurant. Its inclusion in the plan will not result in any net increase in traffic volumes using Water Street. It will not affect the operations of Gate 1 or Gates 4 and 5 entering the Navy Yard as reviewers of the ENF might have feared.

The impact of traffic on this driveway to pedestrians walking from the U.S.S. Constitution to the Bunker Hill Pavilion will be minimal. The driveway will provide access only to the 48-space restaurant parking area and not to the larger office complex which has a separate parking area. In the summer, when pedestrian traffic is highest, it is expected that many of the restaurant patrons will arrive on foot or by bus. Dinner traffic will not conflict with pedestrian traffic to and from the Pavilion since it will arrive late in the day when most tourists have departed. In the winter, the number of people walking between the National Park and the Pavilion decreases, and the number of cars entering the restaurant parking lot will not present a serious conflict with pedestrians.

The construction of this driveway will be accomplished through a land swap which Massport proposed to the National Park Service in 1980. Under the terms of the swap, the Authority will acquire a strip of land running from Water Street to the railroad tracks at the north edge of the Pier in exchange for a landscaped area on the northeast corner of the pier site adjacent to the water as shown in Figure 3. The land which Massport wishes to acquire is currently part of the parking area attached to the Chocolate Factory Building. It will be used as two-lane driveway which will provide access to the restaurant entrance and parking area. Figures 5 and 6 show the existing and proposed circulation onto

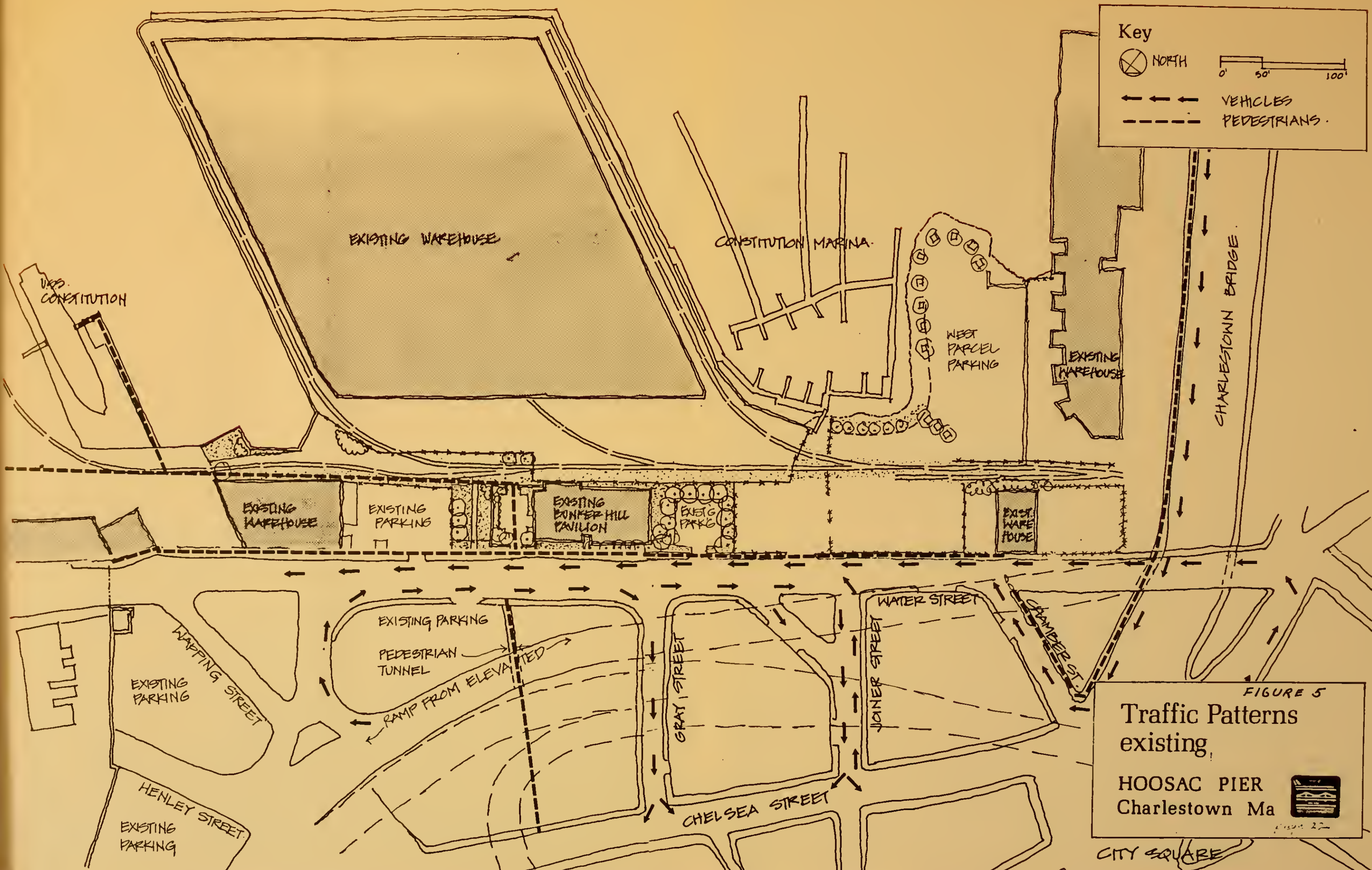


FIGURE 5

Traffic Patterns existing

HOOSAC PIER
Charlestown Ma

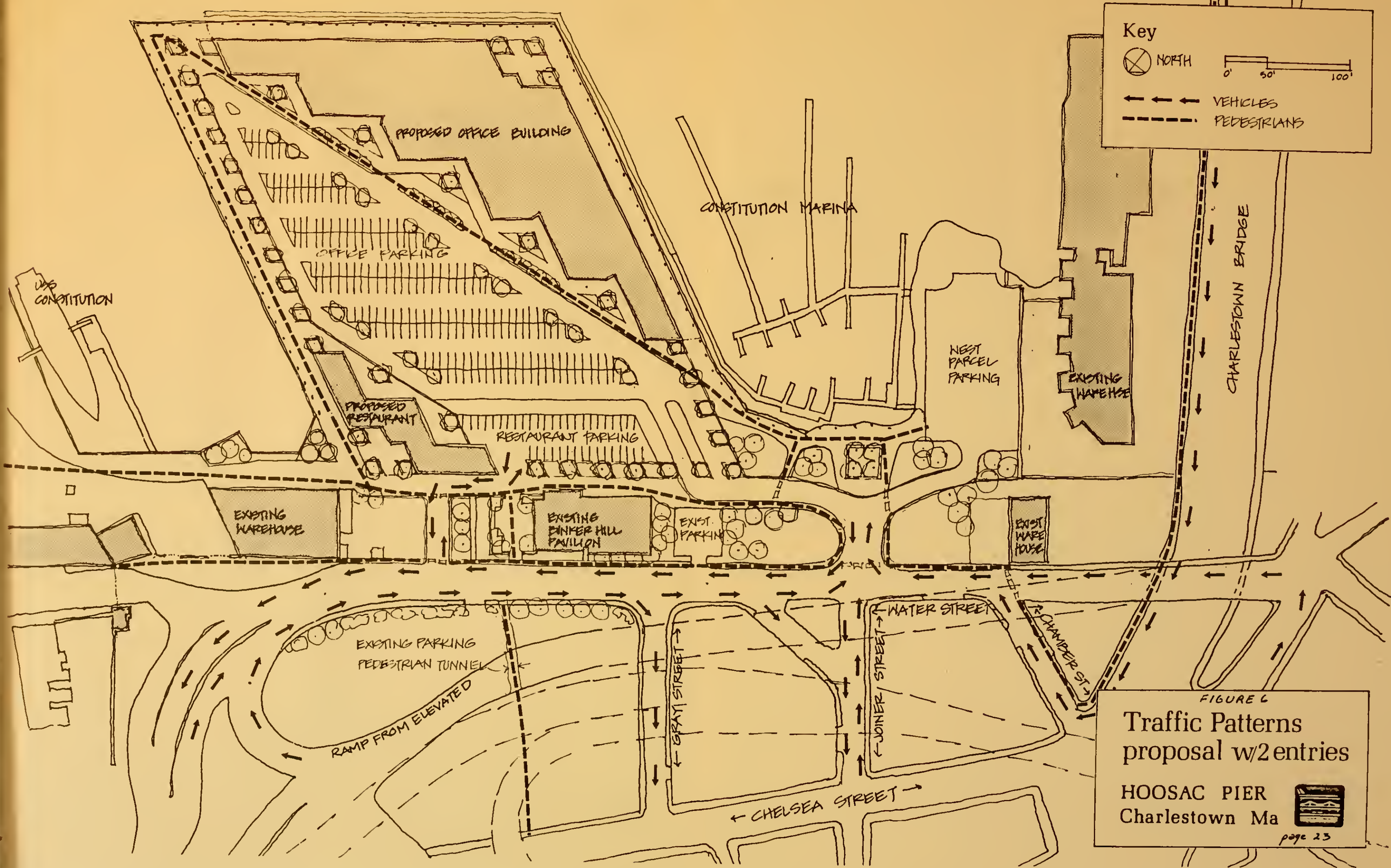


FIGURE 6

Traffic Patterns proposal w/2 entries

HOOSAC PIER
Charlestown Ma

the site. The two driveway scheme which separates restaurant and office traffic improves on-site circulation and should have no adverse impacts on Water Street traffic flow (Fig. 6). While the Authority and the National Park Service are both committed to developing a land swap plan, the final details remain to be determined.

Authority staff have discussed the installation of a pedestrian-operated crossing signal at the junction of the restaurant driveway and the walkway between the Pavilion and the National Park Service site with the Trustees of Bunker Hill Pavilion and National Park Service staff. While it is unlikely that a driveway leading to a 48-car parking lot and the restaurant loading area will cause a major conflict point, the installation of a light by the Authority will mitigate this. Such a signal, along with signage warning pedestrians that they are crossing an entry driveway, would promote the safe movement of pedestrians.

3.3.2 Visual Impacts

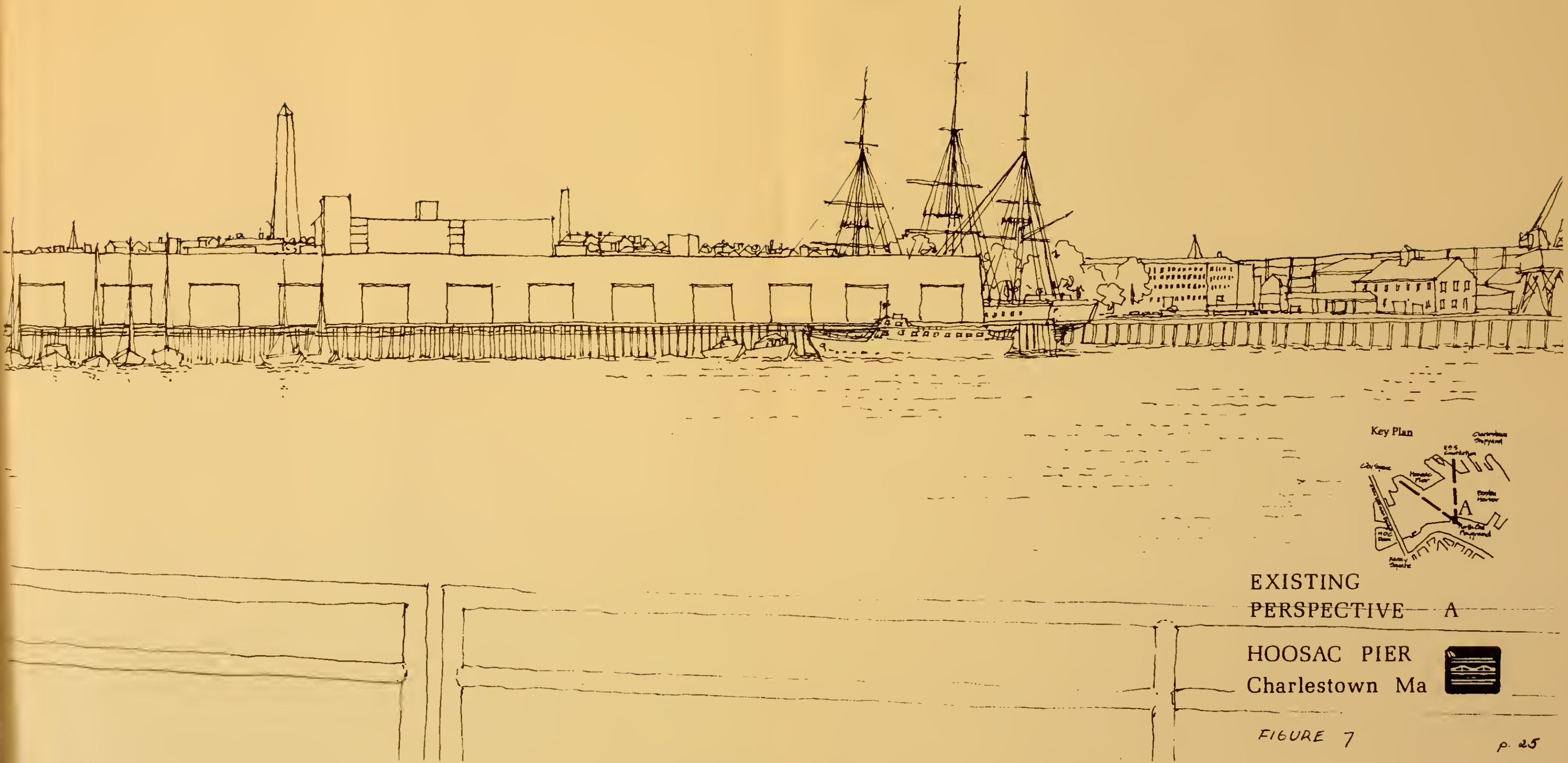
The attached Figures 7 - 12 are sketches drawn from photographs to show the visual impacts of the proposed construction from three vantage points from South to North: A - the North End Playground, B - the MDC Park at the southern end of the North Washington Street Bridge, and C - along the Freedom Trail crossing the bridge. The views of the U.S.S. Constitution and the nearby historic buildings, after the project is completed, will be at least as good as the existing condition at any of these vantage points, and they will be improved from some, particularly the view from the North End.

Because the new building will not cover the southeast corner of the pier, the views across that corner to the Boston National Historical Park will be improved under the proposed plan. The masts of the U.S.S. Constitution will be in view from every angle, and, from the North End Playground, more of the ship will be in view than at present because the pier's southeast corner will be empty.

There are no other visual impacts from the project on historic structures, except that the views to and from Charlestown through the site will be greatly improved when the unsightly grey pier shed is replaced by a sensitively designed new building.

3.3.3 Historical Resources Impacts

The Massachusetts Department of Public Works (MDPW) and the Central Transportation Planning Staff (CTPS) have studied City Square and the surrounding area to understand the topographical history of Charlestown. The study arose in conjunction with planning for the North Area Artery work since construction of the highway project could affect historic artifacts buried in the



EXISTING PERSPECTIVE A

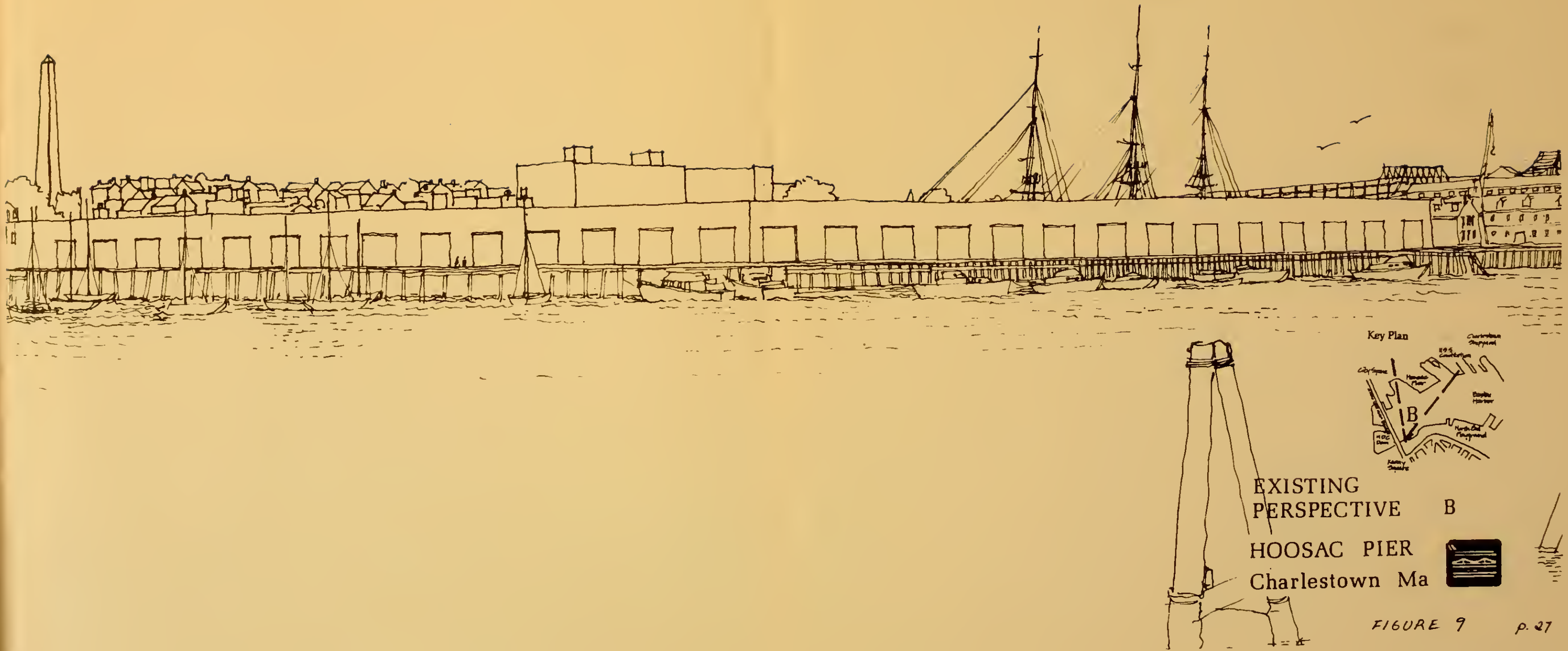
HOOSAC PIER
Charlestown Ma

FIGURE 7

PERSPECTIVE A

HOOSAC PIER
Charlestown Ma

FIGURE 8



EXISTING
PERSPECTIVE B

HOOSAC PIER
Charlestown Ma

FIGURE 9

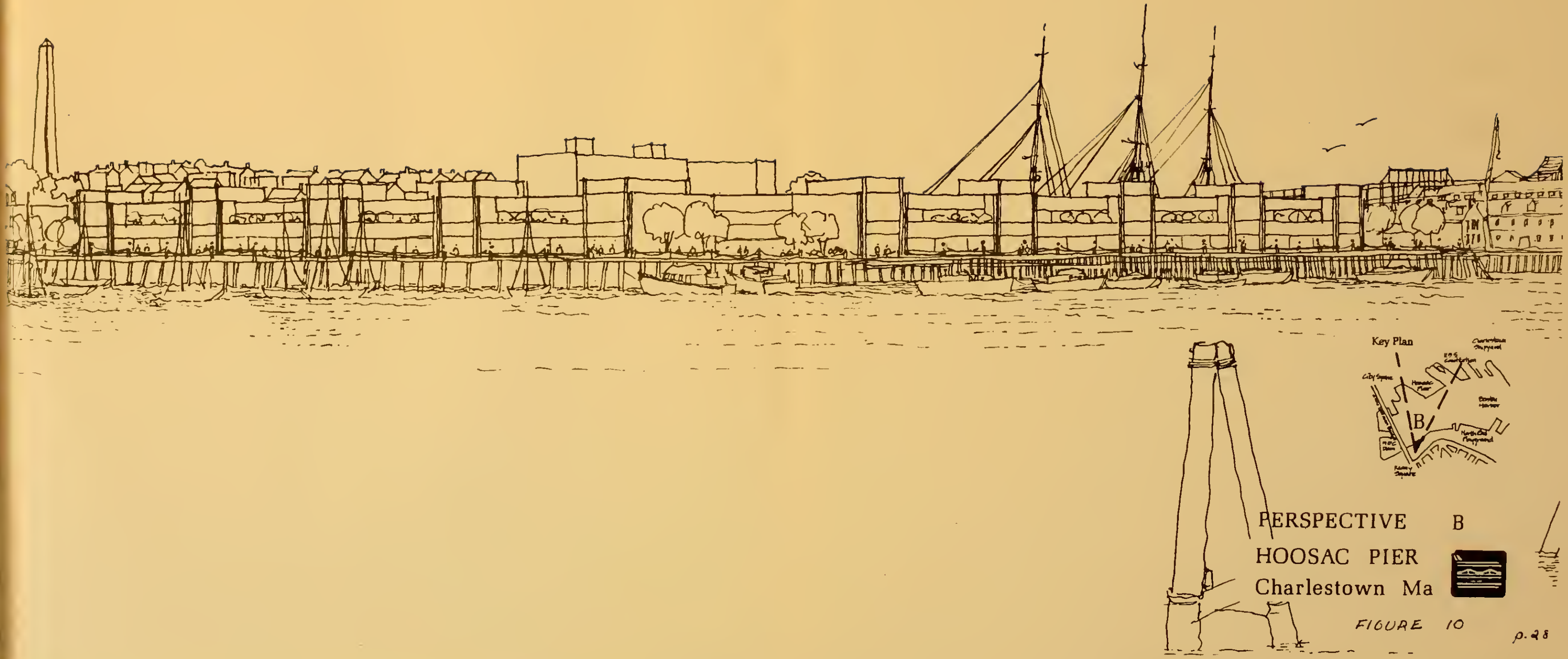
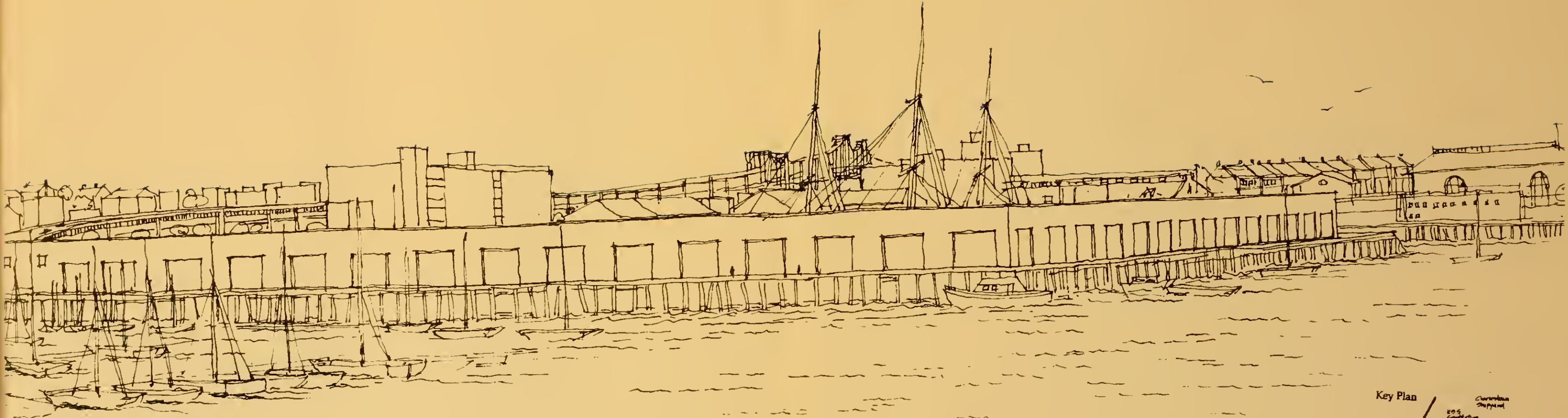


FIGURE 10



EXISTING
PERSPECTIVE C

HOOSAC PIER
Charlestown Ma

FIGURE 11

PERSPECTIVE C

HOOSAC PIER
Charlestown Ma

FIGURE 12

area. A brochure outlining this history was prepared as part of the project study. Archeologists from the Institute for Conservation Archeology of the Peabody Museum actually excavated areas near City Square and analyzed materials to locate any evidence that would assist historians' understanding of the economic and social history of Charlestown over time.

The final report of this effort, Phase II Archeological Site Examination of the Project Area for the Central Artery, North Area, Charlestown, Massachusetts, documents the recovery of artifacts from the highway project area. The report shows the significant sites within the highway project area, but not at the Hoosac site itself.

Hoosac Pier is located near the North Area Artery project. Maps taken from the MDPW report showing the evolution of the City Square and Hoosac Pier area since 1638 are provided on the following pages. The red lined overlay which is enclosed separately should be placed on top each of the dated historical maps (Figs 13-18). The overlay shows the redevelopment planned under the proposed alternative. There are two major points to notice in studying the relationship between the overlay and the historical maps. First, the portion of Hoosac Pier on which construction activity will occur is in an area which was once mostly covered by water and successively filled over time to the final site configuration created in the early 1950's. Therefore prehistoric and 17th century artifacts such as those discovered in the North Area Artery research are unlikely to be found at Hoosac Pier. Also because of previous construction and demolition activity on the site over the years, archeological artifacts that may be located there have probably been disturbed in the past.

The nature of the new construction will minimize any further disruption of historic resources on the site. There will be no new piles driven as the existing piles will support the new office building. The roof and wall panels enclosing the existing shed will be removed. The existing floor will be retained intact except for excavation to expose the pile caps and allow for new footings. Additional concrete will be poured to raise the grade of the site one foot. This action will not damage any artifacts that might exist on the site.

The restaurant and office buildings will require new footings. The footings are designed to minimize the trenching required. Trenches will be ten feet deep and ten feet wide at the bottom, with walls sloping outward to a maximum width of eighteen feet at the top.

During the excavation of these trenches, if any items of historic value are discovered, the contractor will stop operations in that area and the project manager will notify the Massachusetts Historical Commission. The contractor will be advised of the potential for unearthing archeological resources

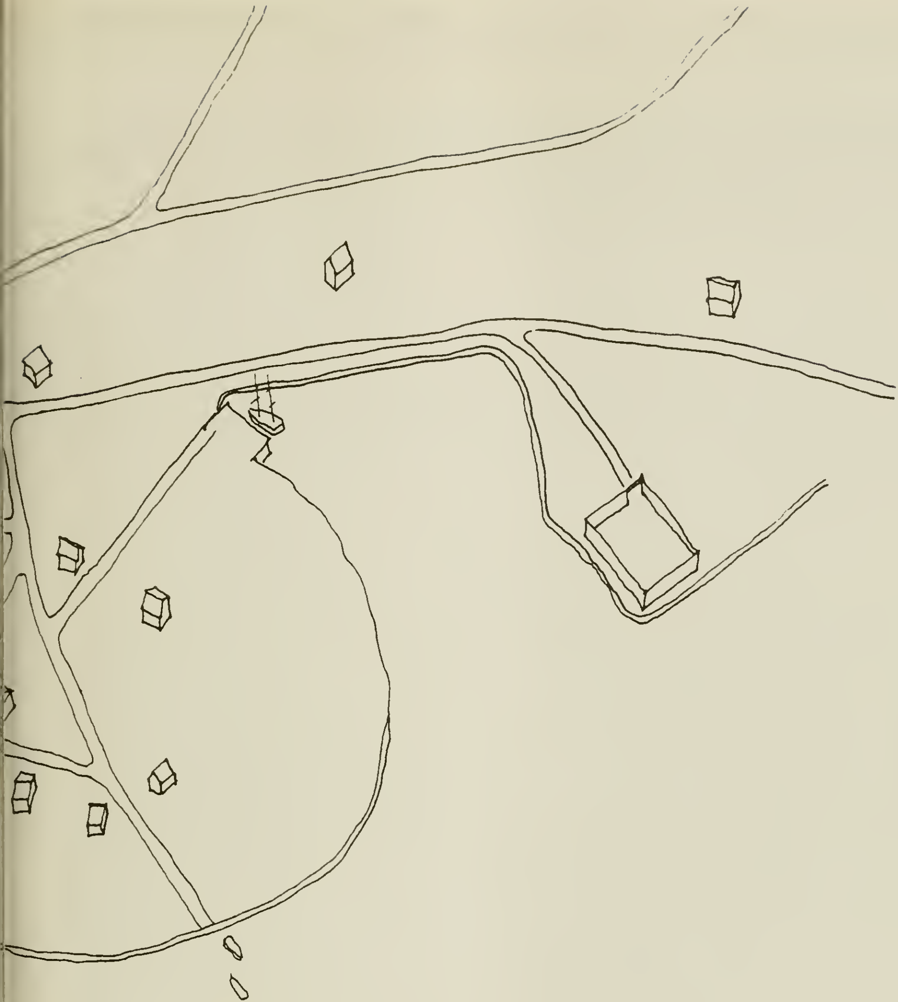


Figure 1.3

Site circa 1638

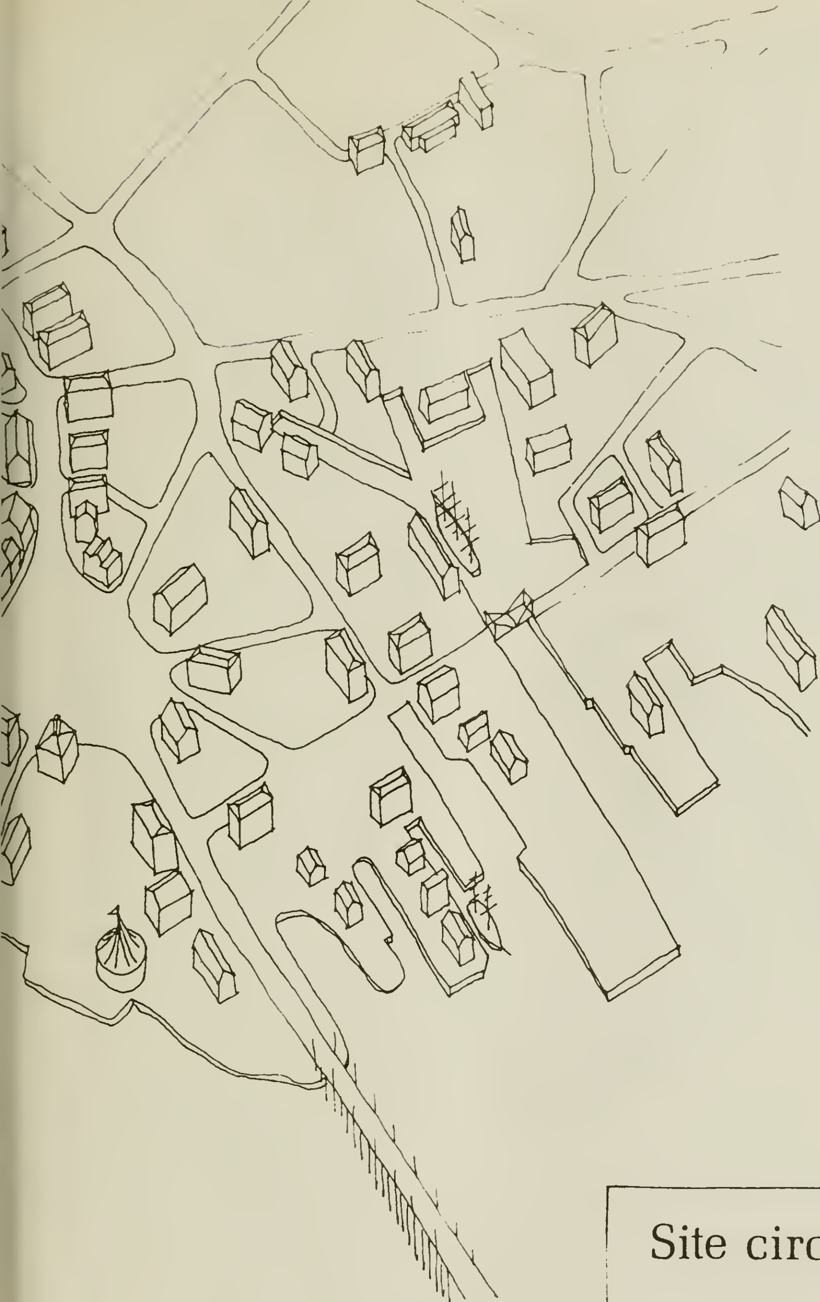
HOOSAC PIER
Charlestown Ma

Figure 14 has been deleted because there is no significant change from 1638.

Site circa 1775

HOOSAC PIER
Charlestown Ma

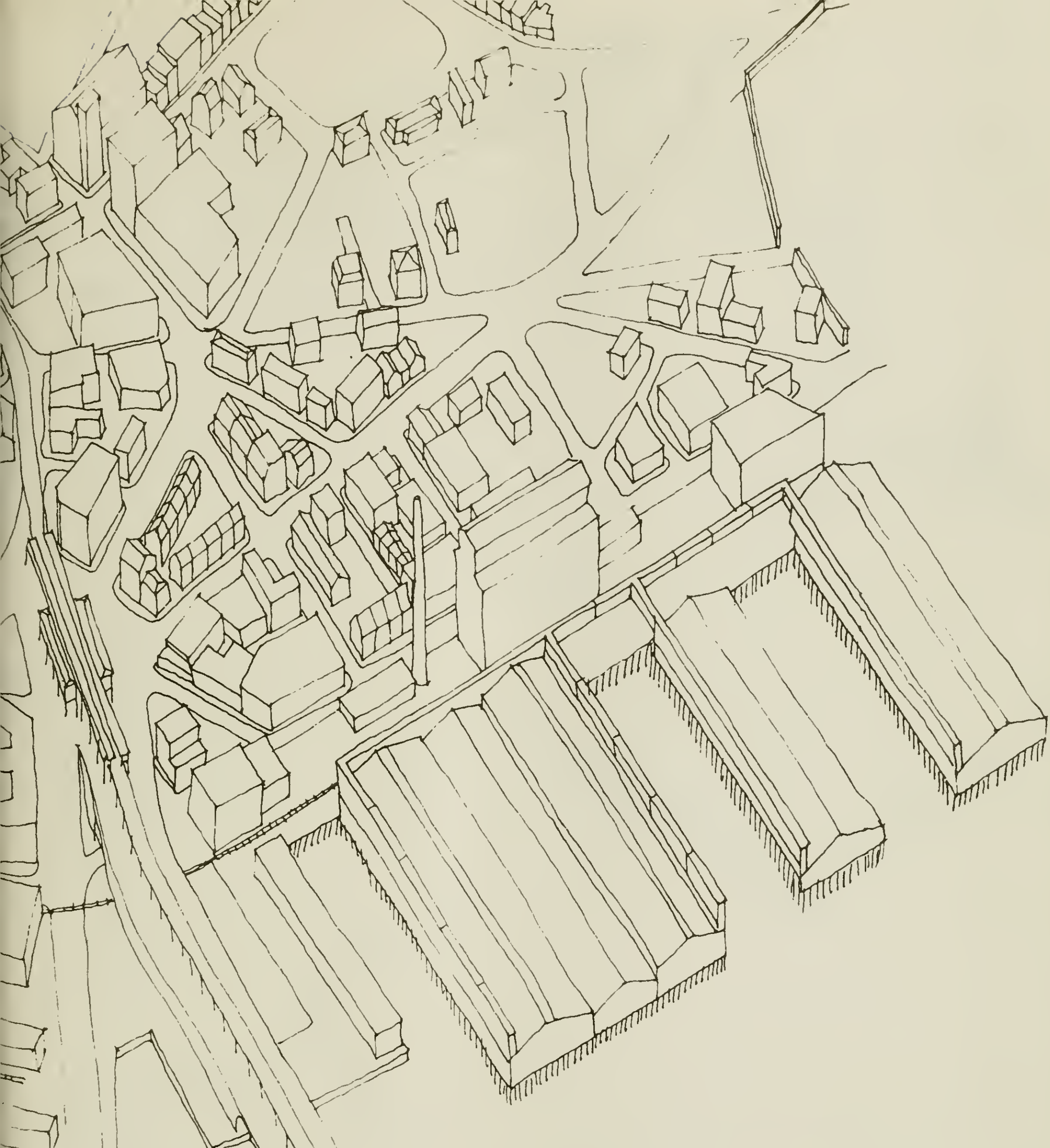
FIGURE 15



Site circa 1820

HOOSAC PIER
Charlestown Ma

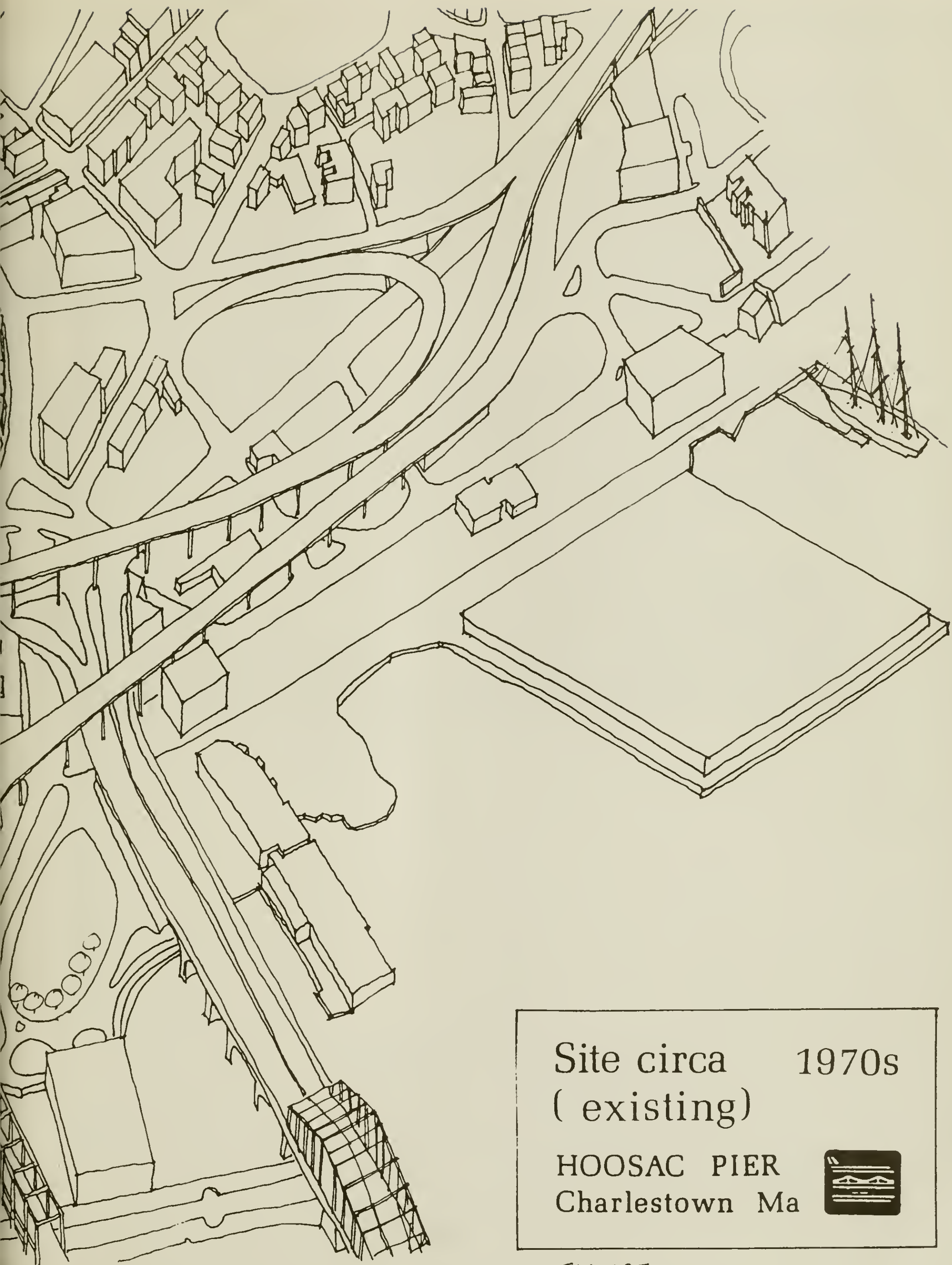
FIGURE 16



Site circa 1900s

HOOSAC PIER
Charlestown Ma

FIGURE 17



Site circa 1970s
(existing)

HOOSAC PIER
Charlestown Ma

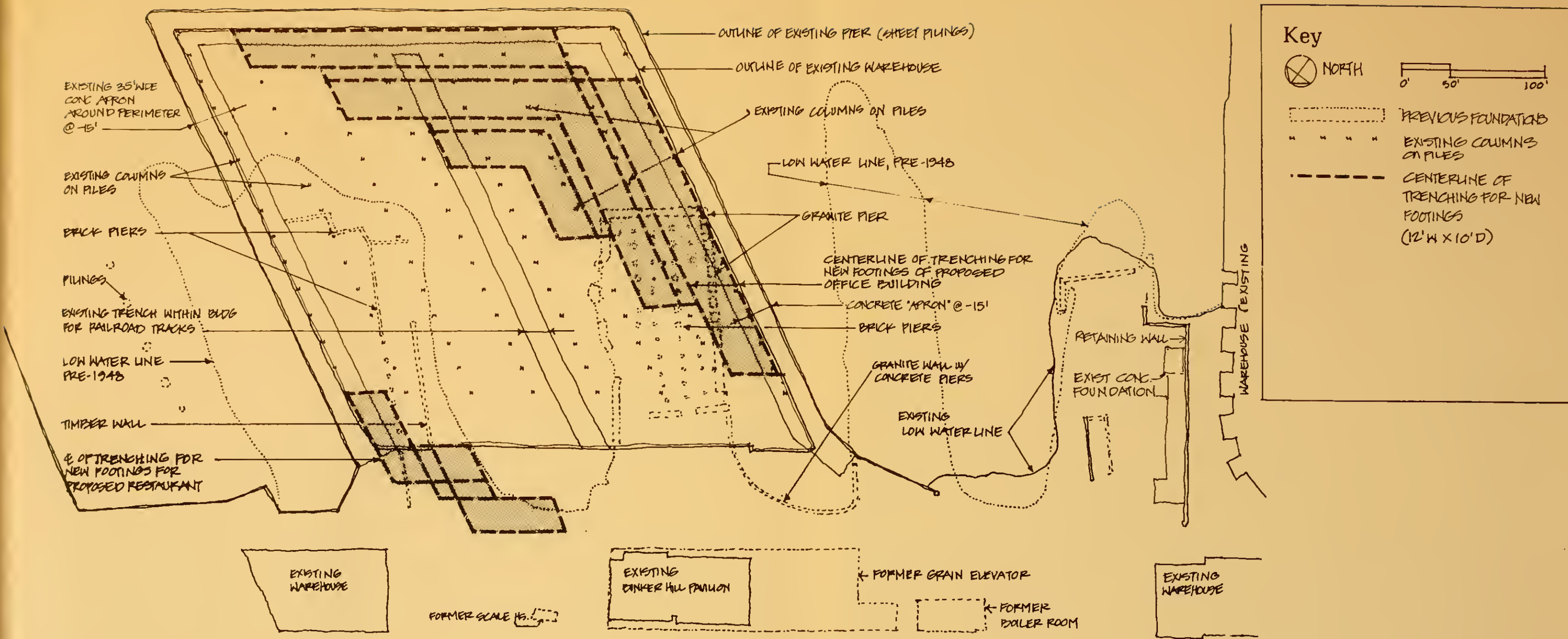
FIGURE 18

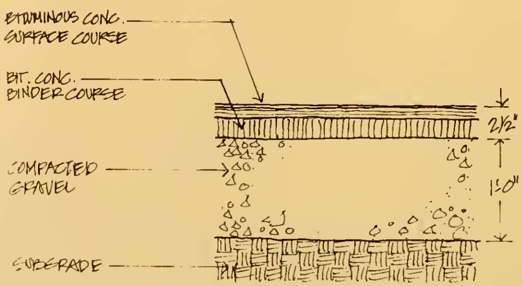
and precautions will be taken to minimize disturbances to any such resources on the project site.

To supplement the information contained in the series of historical maps to be compared to the red lined overlay, Figure 19 shows foundations on the entire Hoosac Pier site both existing and proposed. In the lower left corner of Figure 19 is a typical section showing the paving planned for the restaurant driveway. This section demonstrates the depth required for the site preparation for the driveway. There should be minimal disturbance to resources of archeological significance in the construction of the driveway.

The only disturbance to the site other than the pile cap excavation, the trench for the footings, and the restaurant driveway will be for utility line installation. Existing utility trenches coming into the site from Water Street will be used as much as possible. The new sewer and water lines will be brought into the site along the rail well into the existing pier shed. Figure 20 shows the alignment of the utilities both existing and proposed. The depths of existing trenches is not precisely known at this time because of the lack of as-built drawings.

The Authority is mindful of the importance of archeological resources particularly those being found near the Boston Waterfront recently. Moreover the Authority realizes the possibility that there will be some artifacts exposed during the construction of new buildings at Hoosac Pier. Every effort will be made to minimize disruption to these resources and to allow the Massachusetts Historical Commission representatives to examine and recover those deemed significant.





TYPICAL SECTION @ PAVING

NOTE: ALL NEW PAVING OCCURS @ AREAS CURRENTLY PAVED OR W/RAILROAD BED. FOR NEW PAVING, PLANTERS, ETC., SEE SITE PLAN

Foundations
existing & proposed

HOOSAC PIER
Charlestown Ma

FIGURE 19

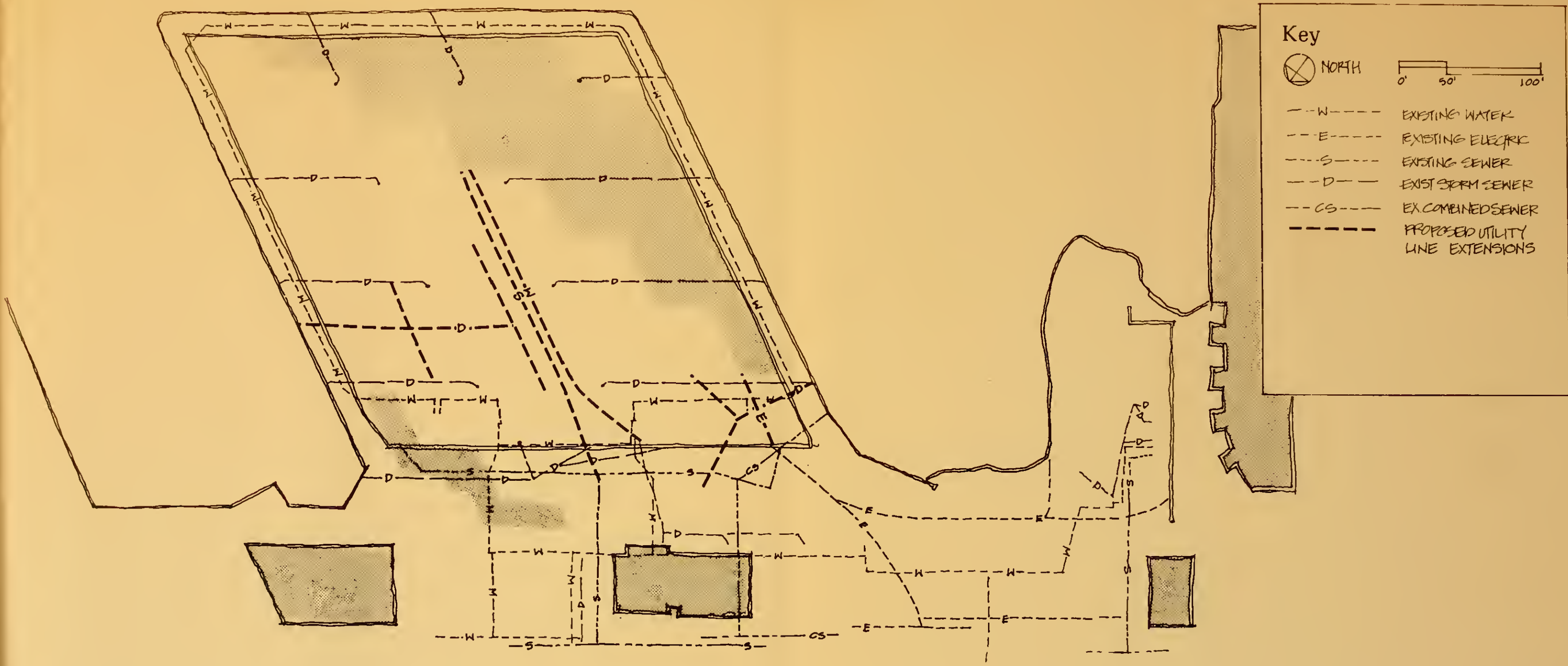


FIGURE 20

Utilities
existing & proposed

HOOSAC PIER
Charlestown Ma

ENVIRONMENTAL
IMPACTS

4.0 ENVIRONMENTAL IMPACTS

This section first details the construction activity proposed for the bulkhead reconstruction. Such action would occur under both Alternatives B and C. Next, a discussion of the building construction proposed under Alternative C only, appears. The specific environmental impacts of the bulkhead reconstruction and the building construction are then highlighted under the headings of traffic, noise, air and water quality.

4.1 Bulkhead Construction

The construction activities required for the repairs and rehabilitation of the bulkhead at Hoosac Pier consist of the following:

1. Cleaning and application of a protective coating from the top of sheeting to elevation 4.5;

2. Construction of a concrete filled, steel faced protective encasement of sheeting from elevation 3.5 to elevation -6;

3. Repair of raker piles supporting approximately 200 linear feet of bulkhead;

4. Repair of the hydrostatic pressure relief valve system for the bulkhead;

5. Rehabilitation of the fender system;

6. Installation of a new cathodic protection system;

7. Placement of riprap on the waterside of the existing raker pile sections.

In order to limit the disturbance from these activities it is proposed that construction be performed in the following manner:

1. The steel sheetpiling supporting the pier backfill requires a protective coating from the top of sheeting elevation 4.5. Sandblasting of the sheetpiling to remove the existing rust and scale is the only suitable procedure for cleaning the steel to provide an adequate surface for application of the coating. The sheetpiling must be sandblasted to a near-white finish so that the coating will adhere to the steel. If the steel is not properly cleaned, the coating will peel off the delaminate from the sheeting.

The sandblasting and coating operation must be coordinated with the tidal cycles. As the tide recedes the sandblasting will be done in the dry. The coating must then be immediately applied before the tide wets the sandblasted steel. The coating will be applied from the bottom to the top in the reverse direction from the sandblasting. Simply stated, the sheetpiling is cleaned as the tide recedes and is coated as the tide returns.

The grit to be used for the sandblasting above the water line will be a granulated slag known in the trade as "Black Beauty." Black Beauty is a coarse material, similar to a medium sand, that will travel on the average no more than about 75 to 100 feet in the air. The travel distance is dependent on wind and weather conditions, and on the elevation of the sandblasting, and may vary from that indicated. In addition to the grit, dust from the rust scale on the sheetpile will be generated during the sandblasting. This may travel farther than the sandblast grit. The U.S.S. Constitution is located nearly 200 feet from the east face of the Hoosac Pier sheetpiling.

Massport is committed to conducting the blasting in an enclosure. Design alternatives for the enclosure are currently being examined. The Contractor shall limit his blasting and coating operation to times when the weather conditions are such that suspended particles cannot travel in the air freely. The inspector will have strict control as to when these operations would be allowed. Federal coordination could be required when working on the eastern side of the pier. Some form of protective encapsulation and a floating boom might also be required. On the west side adjacent to the marina, boats would have to be relocated during these operations.

The feasibility of an alternate method called "Wet Blasting" is under study and may be required in the contract documents. This method utilizes spraying of water with a flash rust inhibitor during the sandblasting operation. The water limits the amount of grit suspended in the air.

The travel of the grit in the water is dependent on the type of grit and velocity of flow. A boom system could be required adjacent to blasting and coating operations. Any Black Beauty grit whose trajectory is below the boom should precipitate to the harbor bottom within about 25 feet from the face of the sheetpile wall. The dust from the rust

scale could travel twice that distance as this material will be finer than the grit. The dust in the water is a temporary and transitionary condition and will be carried out with each outgoing tide cycle. The long term quality of the water will not be affected by the grit or rust scale.

The coating material to be utilized will be a coal tar epoxy coating. There will be no dissipation or dissolution of the coating in the water as the material is 100% solid. The coating must be applied only when the water and air temperatures are greater than 50°F. Overspray of coating material shall be limited by a protective covering which shall be required as necessary. The noise associated with the sandblasting and coating will be minimal.

The total area of sheetpiling to be sandblasted and coated above elevation 4.5 is about 34,000 square feet. It is estimated that three sandblasting and coating crews could complete this work in 3 1/2 months. Because of the temperature and spawning season constraints for application of the proposed coating, it is assumed that this work will be performed during the middle of May through September. On the east face of Hoosac Pier coating and sandblasting will not begin prior to the end of July.

2. The area of sheetpiling from elevation 4.5 to elevation -6 is that area subject to corrosion from the marine environment which has poor access for maintenance. In order to provide a long term solution for maintaining the integrity of the sheetpiling over this critical area, it is proposed that the existing sheetpiling be provided with a new sacrificial steel face and that concrete be poured between the existing sheetpile face and the new face. This will create a protective encasement to the sheeting which will require low maintenance and be long lasting.

The underwater sheetpile face will require cleaning by waterblasting. This operation will clean the surface to a condition such that concrete will adhere. The use of water will limit disturbance from the cleaning operation. The rust and marine growth cleaned will be carried out with each outgoing tide cycle. The long term quality of the water will not be affected. Localized underwater sandblasting could be required in some areas. As this operation will be underwater, particles of

grit or scale should travel even less distance from the bulkhead than from above water.

Placement of the new face will require underwater welding. Once the face is in place, concrete will be poured from the pier apron. Neither operation will create any appreciable amount of noise or cause air or water quality impacts.

Placement of the steel facing will occur concurrently with the sandblasting and coating operation. It is estimated that construction of the protective encasement over the specified area will require three crews working for approximately six months. The estimated volume of concrete is 1200 cubic yards. It is estimated that on the average two concrete trucks will make deliveries to the job site every day.

3. The raker piles are the batter piles extending on the waterside of the sheeting, providing horizontal support to the sheetpile system. There are approximately 110 linear feet of sheetpiling being supported by raker piles located on the northeast section and approximately 90 linear feet along the northwest portion of the site. The existing raker piles are excessively deteriorated and contain numerous holes. It is proposed that approximately ten piles at the northeast section be repaired by adding a new section of steel to span over the existing poor areas. A form will be placed around the section to be repaired and concrete will be pumped into the form. A new horizontal steel whaler will be welded into place along the sheet piling.

   For the northwest section of the site and a portion of the northeast section, it is proposed that the raker piles be abandoned and a new anchor system installed on the landside for horizontal suppport of the sheet piling. This support or anchor system will consist of a new waler on the landside of the sheeting and tie rods extending to a concrete deadman approximately 50 feet inland. All construction activities associated with the new anchor system will be from the landside of the wall with the exception of some minor cutting operations to remove the existing raker support system. The volume of concrete for the deadman is approximately 100 cubic yards. It is estimated that four concrete trucks will make deliveries over three to four days of pouring.

4. The pier currently has 4-inch diameter drain holes spaced about every 30 feet along the bulkhead. These holes are located at about elevation 0 just below the pile-supported concrete relieving platform. They were originally installed with flap valves to minimize the hydrostatic pressure difference on the sheeting. The valves are no longer in operation and there has developed a 2 inch to 24 inch void below the platform. There is concern that liminora borers are present and are attacking the piles within this void. It is proposed that this void be filled with a lean bentonite-cement mix and a new pressure relief system be provided.

   Filling of the void could be performed from the land or water side of the pier. Filling of the void from the water side would require extending a tube into the void and concurrently pumping and pulling out the tube. The tube would be in the order of 20 to 25 feet long and would require relocation of adjacent boats in the Marina area. From the land side, grout holes would be drilled from the top of the apron through the relieving platform into the void. A slurry mix would be pumped in through the holes. The total volume of the slurry mix is estimated to be about 3000 cubic yeards. The slurry mix will be mixed on site and pressure pumped into the void.

   Structural calculations indicate that relief valves will be required both above and below the relieving platform. The installation of new relief valves above the platform would require cutting of new holes in the sheeting as well as an on-land excavation and backfilling with pervious material adjacent to the sheeting. Relief valves below the platform would generally require cutting of holes in the sheeting and jacking a slotted pipe horizontally into the existing soil.

5. The existing fender system will be removed and a new fender pile system will be installed to protect the new bulkhead. The contractor will be required to assure that no timber members will come free during the removal of the existing fender system. Construction of the new system will be performed using a vibratory hammer from the face of the existing sheeting to minimize noise.

6. The existing cathodic protection system is inoperable and in need of complete replacement. A new system will be installed which will utilize standard materials, none of which have any known

deleterious effects on the general environment, the marine environment or any of the vessels occupying it.

Wires will be copper encapsulated with cross linked polyethylene. Both of these are generally inert substances. Electrodes will be of steel, fiberglass, PVC and rubber.

Some diving operations will be required. However the diver will be so close to the pier walls that marina activities should not be affected.

Most electrical work will be performed on the pier itself, with minimal impact on the marina.

7. The original design of the pier indicated riprap material should be placed on the water side of the raker pile section of the bulkhead at a slope of approximately 1.5 horizontal to 1 vertical foot. The purpose of the riprap was to provide horizontal passive pressure at the toe section of sheet piling. The riprap is no longer in its original configuration. It is proposed that the existing slope be brought back to the equivalent of the original. This will be accomplished by placing approximately 400 cubic yards of riprap stone on the water side of the sheetpiling.

4.2 Building Demolition and Construction

The building demolition and construction plan (Figures 21 and 22) has been designed to minimize impacts on the National Park and Constitution Marina. The construction schedule calls for those construction activities generating the greatest amount of noise, dust, and truck traffic to be undertaken during off-hours for the park and marina where possible.

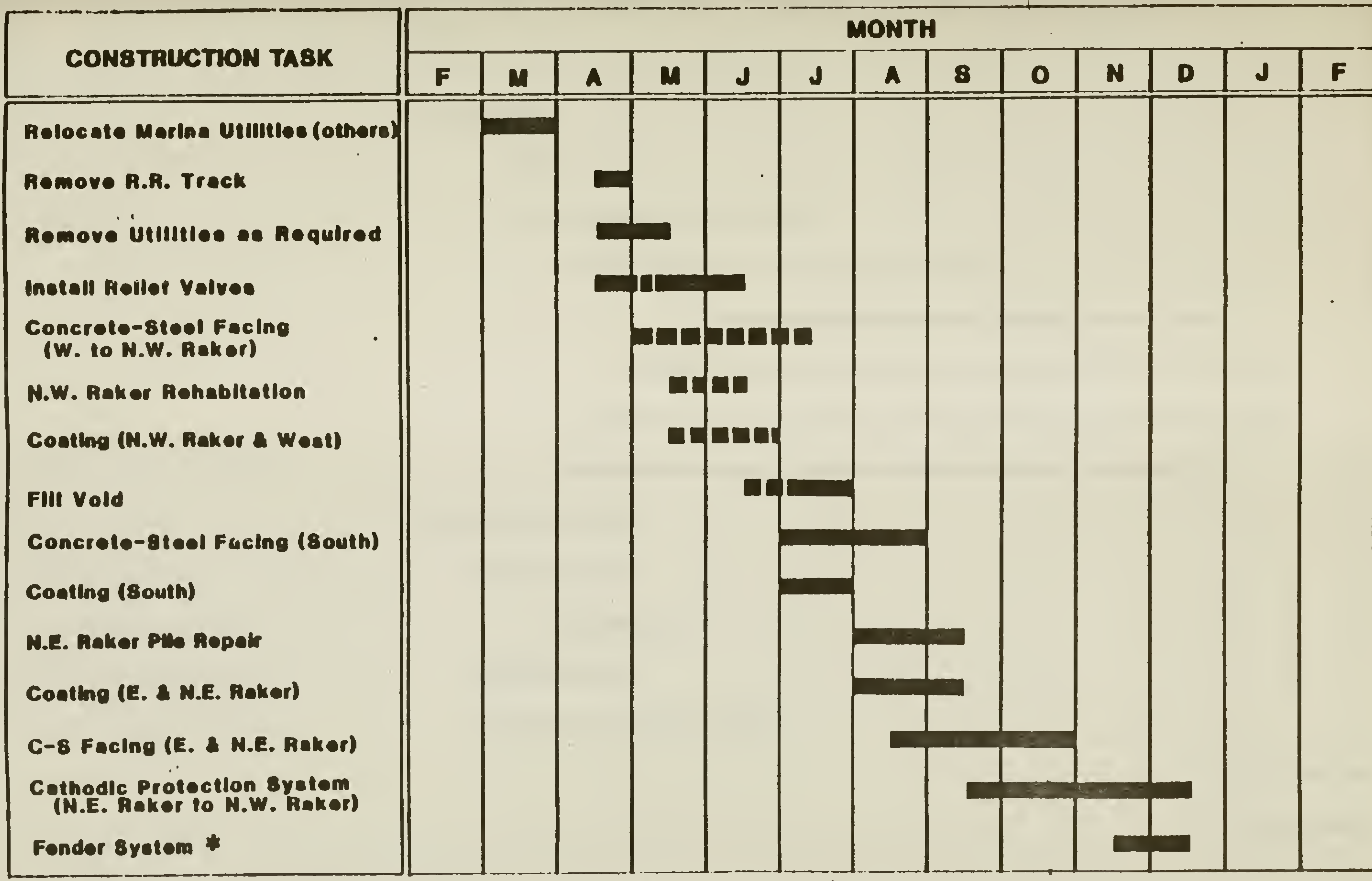
The removal of concrete asbestos panels will be carried out primarily by hand, with a crane assist and in conformance with procedures of the Environmental Protection Agency. The panels will be saturated with water to eliminate the emission of asbestos dust during the dismantling procedure. Panels will be placed in containers which will be sealed and removed from the site as they are filled. The filled containers will be taken to a special waste dump.

Demolition of the existing steel frame building, excavation for repair of the pile caps and pouring of the grade beam and foundation walls will be scheduled at times that would least affect activities of the surrounding areas. The removal of the demolished building materials and the hauling of gravel to elevate the site to the required grade will generate the most truck traffic.

Figure 21

CONSTRUCTION SEQUENCE

BULKHEAD



* Could Be Undertaken Earlier If Incorporated In Forming C-S Facing

▀▀ Temporary Relocation of Marina Adj. West Side of Pier- Assumes Work To Be Restricted To 75 Foot Sections

Truck traffic during these early phases of construction is estimated at ten to twenty trucks per day. Once the building grade is established and the foundation poured, truck traffic will decrease to an estimated ten trucks per day. Construction activities that generate truck traffic will be scheduled for non-rush hour times so that normal traffic operations will not be affected.

Construction noise levels range roughly from 80 to 90 db(A) at 50 feet. Practical control of construction noise is limited to, (A) scheduling the noisiest operations, such as use of jack-hammers, during periods when they will least disrupt activities in the National Park; (B) checking equipment for proper mufflers and proper maintenance of their noise reducing devices; (C) locating any stationary noise generating equipment such as generators, compressors, and pumps as far away as possible from noise sensitive areas. The demolition and site preparation phases, scheduled to occur in April, May, and early June are the noisiest construction activities associated with the project.

All efforts will be taken to minimize fugitive dust and other emissions from construction activities. Construction debris will be hauled from the site in sealed containers. Dust will be handled on an ad hoc basis. The edge of the pier will be outlined with bales of hay which will stop any mud, papers, or other debris from being washed into the water. Whenever possible, construction equipment and vehicles will be stored in areas that will have the least effect on the National Park and Marina. Throughout the project, parking of construction vehicles and equipment will occur on the premises. During the early phases of construction, equipment and material will be stored in the open on site. Once the building shell is erected, materials and equipment will be stored inside the building or other areas that will have the least detrimental effect on the aesthetics of the area.

4.3 Traffic Impacts[4/]

Hoosac Pier is located within 280 feet of City Square which serves as a funnel for traffic on the regional highway network entering Downtown Boston. Some vehicles on the elevated roadways above City Square attempt to bypass congestion on the viaducts by using local streets in Charlestown. This traffic then traverses City Square to approach Downtown, creating congestion in City Square during the morning and evening commuter periods. City Square is the one location near the project site which could be adversely affected by additional traffic.

4/ Detailed discussion of this traffic impact analysis including sources of traffic data is found in the Appendix to this EIR.

Under the No-Build Alternative, the only traffic at Hoosac Pier would be marina-related, and tourists visiting the Bunker Hill Pavilion. Until the last tenant vacated the pier shed there had been trucks coming to and from the site daily to serve the warehouse operation in the shed.

Under the Bulkhead Repair Only alternative, the only addition to the traffic cited in the No-Build Alternative would be trucks involved in the bulkhead repair operation. These would number no more than ten per day.

4.3.1 Construction Impacts

During construction of the proposed alternative, the impact on both vehicular and pedestrian traffic on Water Street should be negligible. Truck traffic will be heaviest during the first phases of construction. Demolished building materials will be hauled from the site, and gravel to elevate the pier to the proper grade will be hauled to the site at this time. Approximately ten to twenty trucks will enter and leave the site each day.

Once the building grade is established, and the foundation has been poured, the truck traffic will decrease to a maximum of ten round trips per day. Throughout construction the trucks will approach and leave the site during off-peak hours to avoid exacerberating existing traffic congestion in City Square and environs. The construction crew will work from 7:00 am to 3:30 pm.

4.3.2 Operational Impacts

The commercial development at Hoosac Pier will generate additional traffic during the A.M. and P.M. peak hours. This additional traffic will be generated primarily by the office development on the site rather than the restaurant associated with the complex. The most significant traffic impacts are expected to occur during the P.M. peak hour, because traffic departing from the site has fewer options for dispersal within the local street system, enroute to I-93 and Route 1, than does the arriving traffic in the morning peak hour. However, the P.M. peak hour traffic will not adversely affect City Square, since about 93% of the Hoosac outbound traffic in the P.M. peak hour will enter the expressway system via Joiner Street, and will not travel through City Square enroute to the Downtown or points northward. The A.M. peak hour traffic will be considerably more dispersed than the P.M. peak hour both in time and route so that no increase in A.M. peak hour congestion in City Square will result from the Hoosac Pier development.

The current street system allows for immediate access from Hoosac Pier to the Expressway and Tobin Bridge, as does the street system designed under the Chelsea-Water Street Connector project. The latter project should be in place at about the time of completion of the proposed development at Hoosac Pier. Table I following this page indicates the primary routes to be followed by commuters working at the completed Hoosac Pier facility. These commuters will enter the site from Water Street at an entrance located southeast of the Bunker Hill Pavilion.

This traffic assignment was based partly on a Massachusetts Department of Public Works origin-destination survey for the Central Artery in 1977. The estimate of Hoosac Pier office traffic moving through City Square is low because of the congestion both in City Square and across the North Washington Street Bridge in Keany Square. The P.M. peak bottleneck at Keany Square will dissuade all but the most determined travelers from Hoosac Pier from using the Charlestown Bridge via City Square for southbound travel. New Hoosac-generated traffic is therefore estimated to increase City Square traffic by about 2%. This includes Hoosac Pier employees living in Charlestown who would use Park Street, Harvard Street or Rutherford Avenue for their homeward trip. This figure is derived from an estimated 13 vehicles which exit from Hoosac in the PM peak and which enter the City Square traffic stream. The 1985 PM peak volume of the City Square traffic stream varies from 765 to 1300 vehicles depending upon location.

Restaurant patrons will enter the site from Water Street via a driveway located adjacent to the restaurant on the northeast end of the site. It is anticipated that during the day restaurant patrons will be primarily office workers and Navy Yard visitors already on or near the site who will walk to the restaurant, generating little new vehicular traffic in the City Square area during the day. Most of the restaurant's evening patrons will approach the site after the P.M. peak hour commuter traffic has dissipated. Therefore, the restaurant traffic and more specifically, the driveway to the restaurant will not adversely affect traffic flow on Water Street or in City Square. Moreover, in as much as the Bunker Hill Pavilion closes at 4 P.M. in the winter and 6 P.M. in the summer, pedestrian traffic between the Pavilion and the National Park Service should be minimal by the time dinner patrons begin to use the driveway.

TABLE 1

Local Street Traffic Assignment

Regional Facility	I-93	Rt. 1-Tobin	Charlestown Bridge
Arrivals at Hoosac	Off ramp to Water Street and L. Turn into Main Gate.	Exit Tobin ramp onto Henley St.; Henley to Main St.; L. onto Main to City Square; through City Square to Water St. via Warren Ave. R. into Main Gate.	Sharp right at end of bridge onto Chambers St.; L. onto Water St. into Main Gate.
Departures from Hoosac	Exit Main gate; straight ahead onto Joiner St.; cross Chelsea to I-93 on-ramp.	Exit main gate; straight ahead onto Joiner St.; Right onto Chelsea to Tobin on-ramp.	Exit main gate; straight ahead onto Joiner; left onto Chelsea; through City Square to bridge.

Restaurant-bound traffic in the evening hours will approach the site in a less predictable manner than the office workers traveling in peak hours. The nature of the restaurant and its moderate size will mean that restaurant traffic flow will not have a significant effect on local or through streets in Charlestown.

Following the review of comments on the Draft EIR, the traffic volumes generated by the proposed development have been reassessed to determine the effect of the project on the City Square area street network. Reviewers had been concerned about the modal split in the Draft EIR for Hoosac Pier employees. Also questioned were the assumptions about the auto occupancy at 1.76 employees per car, as well as total number of employees at the site. Reviewers suggested that the assumptions about vehicles generated in the P.M. peak hour were understated.

The reassessment suggests that vehicular volumes in the P.M. peak hour will not greatly exceed the original estimate of 140 cars as given in the Draft EIR. Two approaches to the estimation of traffic volumes were employed in the reassessment. These are described in detail in the Appendix to this volume and summarized in this section.

The proposed project includes 150,000 gross square feet of office space. Using the model set forth in the Wilbur Smith Access-Oriented Parking Strategy in 1972 for office users, the reassessment suggests that about 180 cars would exit Hoosac Pier during the P.M. peak hour. The Wilbur Smith model for the City of Boston which has 7.53 daily person arrivals per thousand square feet and a car occupancy of 1.4 suggests 5.4 vehicles per thousand square feet would enter Hoosac Pier daily. Using the standard of 1.2 exiting vehicles in the PM peak hour per thousand square feet of space, there would be 180 exiting vehicles in the PM peak hour.[5/]

The second method used to determine automobile trip generation is a sensitivity analysis based on information presented in the Draft EIR which shows automobile exits based on the density of employees in the work place. In this analysis a curve is plotted for each assumed auto occupancy rate showing the variation of modal split for employees and the square footage per employee.

5/ The Revised Final Environmental Impact Report for Bird Island Flats uses 1.18 per 1000 square feet as vehicle exits during the PM peak hour. This figure was calculated by Vanesse-Hangen based on observations in the Boston area. See the Bird Island Flats RFEIR - Appendix P8-4-10. This calculation assumes a mode split with 9% transit usage/91% private vehicle. That split has a lower transit usage than the 30% expected at Hoosac.

Assuming that 30% of the employees use public transit and that the tenant uses 220 square feet per employee, the sensitivity analysis shows that an auto occupancy rate of 1.76 results in 231 cars while a lower occupancy rate of 1.4 results in 290 cars. If the modal split and auto occupancy rate used in the Draft EIR were overestimated, so was the exodus rate in the P.M. peak hour. Therefore, not all of the employee exits will occur in the peak hour so that the 250-300 vehicles can be lowered considerably.

For the most part, the local street system in the City Square area can easily accommodate the traffic increment resulting from Hoosac Pier development. The intersection at Chelsea and Joiner Streets is the only point within the study area that would be expected to experience significant degradation of traffic service levels as a direct result of the additional vehicular traffic generated by the Hoosac Pier development (Fig. 23). Moreover, such impacts as are likely would occur only during the P.M. peak hour.

These impacts will result not from the traffic exiting from the restaurant driveway which was the primary concern of those responding to the project as outlined in the Environmental Notification Form, but from the office complex parking area. This traffic will exit from the previously described entrance at the intersection of Water Street and Joiner Street.

The traffic impacts at the Chelsea/Joiner intersection (Figure 24) which are associated with the Hoosac Pier office development can be considered almost insignificant provided that (a) a traffic signal is installed there and (b) that signal is synchronized with the existing City Square traffic signal, assuming a cycle time of about 70 seconds with a 20 second minimum on the Joiner Street green phase.

The signal gives preference to the Chelsea Street northbound traffic. This northbound traffic entering the intersection from the direction of City Square approximates 950 vehicles in the P.M. peak hour according to 1980 data collected by Central Transportation Planning Staff (CTPS). The corresponding 1985 traffic level would be 1100 vehicles.

As a result of the Hoosac Pier development, the traffic on Joiner Street westbound will increase 35%[6]. The Hoosac Pier traffic entering Chelsea Street at Joiner will increase the total traffic in the intersection by 9%. Of the new Hoosac Pier traffic on Joiner Street, 22% will turn right at Chelsea Street. This effectively reduces the proportion of total Joiner Street traffic turning right on Chelsea by 7 percentage points.

6/ The derivations of this percentage figure and all those subsequent are described in Appendix B-2

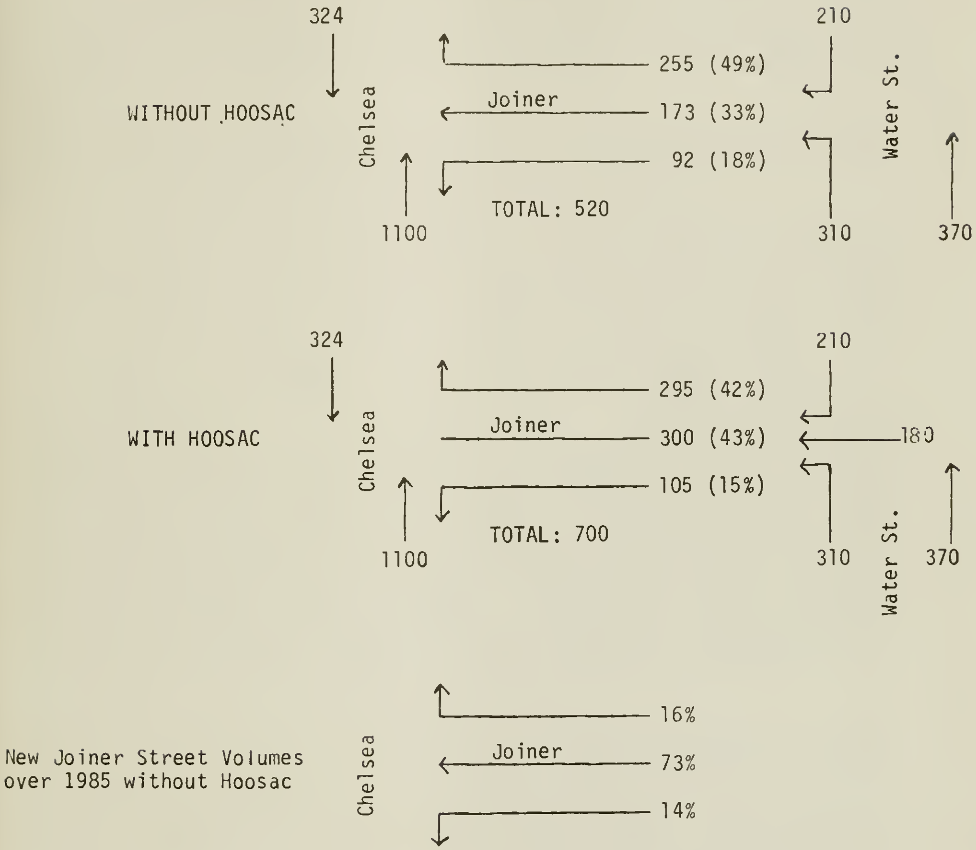
Figure 23

Hoosac Pier EIR Traffic Analysis
Existing Street Configuration

FIGURE 24

1985 P.M. Peak Hour Intersection Volumes With and Without

Hoosac Traffic



The 180 additional Joiner Street vehicles increase the total volume in the intersection by 9%.

The new Hoosac Pier traffic results in a 53% increase in the number of straight through and left turn movements at Chelsea Street from westbound Joiner Street. Of the total 405 vehicles from Joiner Street making the left turn or straight through movement at Chelsea Street, only 13 or under 2% of the vehicles in the intersection are Hoosac Pier vehicles turning left towards City Square. The majority, 71%, of the Hoosac Pier traffic on Joiner Street will go across Chelsea Street to the ramps to the Expressway.

Based upon these intersection traffic estimates and a field evaluation of the platooning effect of the City Square traffic signal, the following conclusions have been reached:

a. The Chelsea-Joiner intersection is capable of easily handling both 1985 P.M. peak hour Chelsea Street northbound traffic and total right-turning northbound traffic from Joiner Street. The total 1985 right-turning Joiner traffic would be about 295 vehicles, of which 40, or 14%, would be generated by the Hoosac development. As previously stated, 1985 P.M. peak hour volume northbound on Chelsea street is expected to be 1100 vehicles. Given the strong platooning effect which the City Square traffic signal is observed to exert upon this northbound traffic, it is our conclusion that there will exist gaps of sufficient length to permit easy entry of the 295 peak hour right-turning Joiner Street vehicles into the 1100 vehicles making up the 1985 P.M. peak Chelsea Street northbound traffic stream. Because of the unusual discreteness and reasonable frequency of the platoons, the City Square signal would be likely to operate as a metering device for the Joiner Street intersection, at least in the northbound direction.

b. The 1985 volume of the Chelsea Street southbound traffic of 324 vehicles in the P.M. peak hour together with the expected volume of straight-through and left-turning vehicles entering the intersection from Joiner Street of 405 vehicles or 58% of the total Joiner Street traffic will make a signal at the Chelsea/Joiner intersection absolutely necessary. Without such a signal, queues of unacceptable length are likely to form on Joiner Street as a result of the additional Hoosac Pier office traffic. Beyond the matter of reduced service level to traffic using Joiner Street, there is also likely to be a safety problem resulting from the elevated level of risk associated with unregulated intersection entries under the driving pressures normally associated with peak urban travel conditions. The traffic signal will address this safety problem.

The Chelsea-Joiner signal must be synchronized with the City Square signal to prevent the development of northbound queues on Chelsea Street during the Joiner Street green phase. It was determined through field observation that P.M. peak hour Chelsea Street northbound traffic volumes south of Joiner Street are such that queues of more than a very few vehicles in length are unlikely to form during the Joiner Street green phase. Based upon some simple calculations involving the rate of approach of Joiner Street vehicles to the intersection, this green phase could be as short as 20 seconds in an overall cycle time of 70 seconds, while still providing sufficient capacity to accommodate Joiner Street entries.

4.4 Air Quality Assessment

The air quality impacts associated with each of the alternatives for Hoosac Pier are relatively minor. With the No-Build Alternative A, the one possible adverse impact on air quality would occur if the asbestos panels enclosing the pier shed continued to deteriorate. The unchecked disintegration of the panels could result in the emission of asbestos fibers into the atmosphere.

Under Alternative B - Bulkhead Repair Only, sandblast grit, rust and scale may escape into the surrounding atmosphere. Precautions will be taken to contain as much of this material as is feasible and to dispose of it properly. Construction equipment is expected to result in minimal emissions of carbon monoxide (CO) hydrocarbon (HC) and oxides of nitrogen (NO_x).

Under the proposed Alternative C-Bulkhead Repair and Office Construction, the same problem of airborne particulates from the sandblasting of the bulkhead is expected as in Alternative B. Minimal emissions of CO, HC and NO_x are expected during the construction phase from equipment and vehicles.

The major difference between the proposed alternative and Alternatives A or B is that the traffic approaching the new development will raise the level of vehicle emissions in the project area. These incremental emissions are expected to be minimal, however, given the size of the development, the amount of traffic which will be generated and the capacity of the local streets. The impacts have been assessed for 1985, 1987, 1990 and 2000 in this air quality assessment.

In compiling this assessment for Hoosac Pier, the assessment documented in the <u>Final Environmental Impact Statement - U.S. Route I-93/U.S. Route 1</u> of June 13, 1979 was used as a guide. The assessment for the North Area Artery project contains the most comprehensive estimates for future traffic volumes in the Hoosac Pier project area. The North Area Artery Final EIR anticipated traffic generated by new development in the Navy Yard as well as the normal growth in overall traffic volumes. It considered the decline in CO levels resulting from the increasing use of emission control devices on ground vehicles. This and other earlier studies of highway project designs for Charlestown did not specifically anticipate the traffic volumes generated by an office/restaurant complex at Hoosac Pier. However, they did include the then existing warehousing operations. The increment of new development traffic over a full operations warehouse is nominal and can more than be absorbed in the traffic estimates from new Navy Yard development activity. Even though the Navy Yard estimate used in the North Area Artery Final EIR has been increased by the Boston Redevelopment Authority's projection prepared in 1981, it is expected that the 180 cars emanating from

Hoosac Pier during the P.M. peak hour will not distort the North Area Artery air quality assessment. For purposes of comparison, the isopleths from studies for the Chelsea-Water Street connector project have been included in appendix C-2.

Air quality impacts of the Hoosac Pier proposed alternative have been considered under three conditions - a) with the continuation of the existing roadway system; b) with the implementation of the Chelsea-Water Streets Connector since construction is underway; and c) with the construction of the North Area Artery Project which assumes the Chelsea-Water Streets Connector. Receptors considered in this study are City Square, the Park Street houses which would be the most adversely affected location under the North Area Artery project, and closer to the Hoosac Pier site, the intersections of Chelsea and Joiner Streets and Water and Joiner Streets. Of these receptors, City Square appears to be the most sensitive.

A. Carbon monoxide (CO)

The CO levels were calculated both for 1-hour and 8-hour concentrations at sensitive receptors (Table II). The level decreases from present day out to year 2000 for both 1-hour and 8-hour concentrations because of improved emission controls on ground vehicles.

For the critical intersection of Chelsea and Joiner Streets there was no appropriate data available in the North Area Artery environmental studies for a no-build of that project. Therefore a Volume 9 1-hour CO analysis at the intersection was carried out using traffic data from CTPS which is the basis of Appendix B-1.

1-Hour CO Impacts

With the existing roadway system in place there is no violation of the 1-hour CO standard in City Square. In 1985 the level there is estimated at 21 which is below the standard of 35 parts per million (ppm). In 1987 the maximum would be 17 ppm which is substantially below the 1-hour standard. At other receptors away from City Square the 1-hour CO level will be even lower.

With the Chelsea-Water Streets Connector in place the estimates of 1-hour CO levels show results comparable to those under the existing system at the intersection of Chelsea and Joiner Streets. Under both the existing roadway system and with the Chelsea-Water Streets Connector, the level is estimated to be 7.8 at Chelsea and Joiner Streets via Volume 9 analysis using traffic data from CTPS which is detailed in Appendix B-1.

With the North Area Artery project in place, the intersection of Chelsea and Joiner is eliminated and a new extended Warren Street is created to connect Hoosac Pier and Water Street to Chelsea Street. A signalized intersection is planned for

TABLE II

Carbon Monoxide (CO) Concentrations In Parts Per Million (ppm)

1 Hour CO Levels (standard = 35ppm)

With Existing Roadways

Sensitive Receptors	1980	est. 1985	est. 1987	est. 1990	est. 2000
City Square	32.7	21	16	14	11.8
Park Street Houses	—	—	—	—	—
Chelsea - Joiner (vol. 9)	—	7.8	*	*	*

With A Northern Artery Project

Sensitive Receptors	1980	est. 1985	est. 1987	est. 1990	est. 2000
City Square	10.3	7	6	5.8	5.6
Park Street Houses	6.5	4.5	4	4	3.6

8 Hour CO Levels (standard = 9ppm)

With Existing Roadways

Sensitive Receptors	1980	est. 1985	est. 1987	est. 1990	est. 2000
City Square	16.3	11.0	9.0	7.8	7.4
Park Street Houses	—	—	—	—	—
Chelsea - Joiner (vol. 9)	—	5.1	*	*	*

With A Northern Artery Project

Sensitive Receptors	1980	est. 1985	est. 1987	est. 1990	est. 2000
City Square	3.6	3.0	2.3	2.0	2.0
Park Street Houses	3.1	2.0	1.8	1.8	1.7

*Will decrease over time

Warren/Chelsea Streets. The North Area Project would not be in place until at least 1987. At that time, the 1 hour CO levels at all the previously cited receptor points would be reduced to 6-7 ppm or lower making 1-hour CO levels inconsequential.

8-Hour CO Impacts

Under the existing roadway system the 8-hour CO level in 1987 is estimated to be about 9 ppm in City Square. The small amount of traffic going through City Square generated by Hoosac Pier development is not expected to cause a violation of the 8-hour CO standard. In 1985 when not as many vehicles are equipped with emission control devices there will be a slight violation of the 8-hour CO standard at City Square with the estimated level running about 2 ppm in excess of the standard. However, the traffic emanating from the Hoosac Pier office/restaurant complex will not exacerbate this condition since most Hoosac Pier vehicles will bypass City Square, giving preference to the expressway and Tobin Bridge.

At Chelsea/Joiner, the new Hoosac Pier traffic is not expected to create 8-hour CO levels in excess of the standard as long as a traffic signal is installed to reduce peak hour queuing. The 8-hour level at Chelsea/Joiner in 1985 is estimated to be around 5.1 ppm. No problem is expected at Water/Joiner Streets, based on a Volume 9 analysis. An 0.65 conversion factor was applied to the 1-hour number to determine the 8-hour level.

With the Chelsea-Water Streets Connector in place, the 8-hour CO levels are expected to be similar to those achieved under the existing roadway system. The signal at Chelsea/Joiner may be equally critical to minimize queuing and to maintain the standard at that intersection.

With the North Area Artery project in place in 1987 the 8 hour standard in City Square will be achieved. At the new Chelsea/Warren Street intersection, the 8-hour level is estimated at 3-4 ppm which is well within the standard. Again at Water and Warren Street Extension near the entrance to Hoosac Pier, there is no exceedance of the 8 hour CO standard in 1987.

B. Hydrocarbons (HC) & Oxides of Nitrogen (NOx)

In the North Area Artery Project EIR no efforts were made to predict 1-hour concentrations of NOx or HC. A gross emissions analysis was performed to provide an indication of the impacts of present and future roadway construction on the regional photochemical oxidant levels. The emissions levels are included in Appendix C-1. The emissions from vehicles to and from the Hoosac development would be included in the inventory since they are a small increment over the Hoosac Pier traffic estimate used in the North Area Artery project study, and since the Hoosac Pier development traffic will be small in comparison to total Navy Yard development volumes.

The HC & NOx inventories show:

Estimated Emissions in Tons Per Year

Emissions	With Existing Roadways: Year 1985	1987	1990	2000	With North Area Artery Project: Year 1985	1987	1990	2000
Hydro-carbons	148	125	102	103	124	100	70	65
Oxides of Nitrogen	162	145	127	120	220	195	172	166

As seen above, both the hydrocarbon and oxides of nitrogen emissions are expected to decline over time because of improved emissions controls on ground transportation vehicles.

Note however, that the HC & NOx emissions vary depending upon whether or not the North Area Artery project is constructed. With a North Area Artery project, the engine efficiencies improve because of traffic decongestion so fewer hydrocarbons are emitted, but the NOx emissions increase over the base case that assumes the existing roadways.

A separate analysis for emissions with the Chelsea-Water Streets Connector in place has not been carried out in this assessment since this project will not result in any decrease in traffic. The project is designed to divert traffic to promote ease of access and increased public safety, but the same volumes will prevail.

4.5 Noise Impacts

4.5.1 Existing Conditions

The noise environment of a densely populated area such as Charlestown consists of numerous activities related to commercial, residential and industrial developments. The Tobin Bridge is elevated above and adjacent to the waterfront area and adds to the noise environment situation.

A number of noise studies for various other projects in Charlestown have already been completed. One in particular, the 1976 Chelsea-Water Streets Connector study, determined that noise characteristics have decreased slightly between 1972 and 1975, due in part to a decline in truck traffic at the Tobin Bridge.[7/] Table III details this conclusion, and the ambient noise survey highlights the location of sensitive receptors during weekday rush hours (Fig. 25). The report concluded that the Bridge is the most obvious source of ambient noise in the pier area, creating a noise environment extending 200 to 500 feet from either side of the bridge. The study concluded that "since the noise swath of the bridge overlaps most of the physical area .... the vehicular traffic volume on these roads will probably not have a great effect on the noise" environment.[8/] The new traffic generated by Hoosac Pier development will not raise the noise levels in the area appreciably. Just as new traffic will not significantly change the existing noise levels, the elimination of one of the noise sources now extant would result in almost no change in the noise environment as a whole.

4.5.2 Construction Impacts

No Build

Under the No Build Alternative, the existing noise levels in the City Square area, Constitution Marina, or the National Park Area, would not be changed by activity at Hoosac Pier.

Bulkhead Repair Only

Noise levels should not increase significantly with the restoration of the bulkhead, because only a few trucks and heavy-duty equipment will be on site daily for a period of six to nine months, and the major work, sandblasting, will be at water level and set apart from the community. Any increase in noise levels in and around the adjacent area at Hoosac Pier will be minimal and short-term.

7/ Noise Analysis, DEIS/DEIR Chelsea-Water Connector, BRA, 1975.

8/ Ibid.

TABLE III. EXISTING NOISE LEVELS
IN CHARLESTOWN DURING WEEKDAY RUSH HOUR PERIODS

Location	Year	Measured Noise Level dB(A)		Principal Sources
		L_{10}	L_{50}	
Water St./Foss St.	'72	75	69	HW, L
Off Ramp/Wapping St.	'72	74	67	HW
*	'75	71	69	HW
Shipyard - Bldg. 24	'75	70	64	Yard Activities
Shipyard - Commandant's House	'75	69	66	HW
Shipyard - Gate 5/5th Ave.	'75	71	68	HW
YMCA/City Square	'72	76	70	L, HW
On/Off Ramp/Henley St.	'72	84	75	HW, L
Winthrop Sq./Adams St.	'72	73	66	L, HW
Chestnut St./Adams St.	'72	75	66	HW, L
58 Chestnut St.	'72	64	58	L
Prospect St./Edgeworth St.	'72	66	63.5	HW, C, L
*	'75	66	64	HW, L
Lowney Way/Tremont St.	'72	81	75	HW, L
*	'75	77	73	HW, L
Monument Sq./Tremont St.	'72	63.5	58	L, C
*	'75	62	56.5	L, C
Bunker Hill St./Tufts St.	'72	72	68	L
Vine St./Hunter St.	'72	75	70	HW, L
*	'75	72	69	HW, L
Barry Playground	'75	70	68	HW
Medford St./High School Site	'75	70	64	L

* = Comparison site to test validity of 1972 data for 1975 conditions

HW = Limited Access Highway and Ramp

L = Local Street

C = Children/Pedestrians

(taken from the Walden Research Division Report for the Chelsea/Water Street Connector Study)

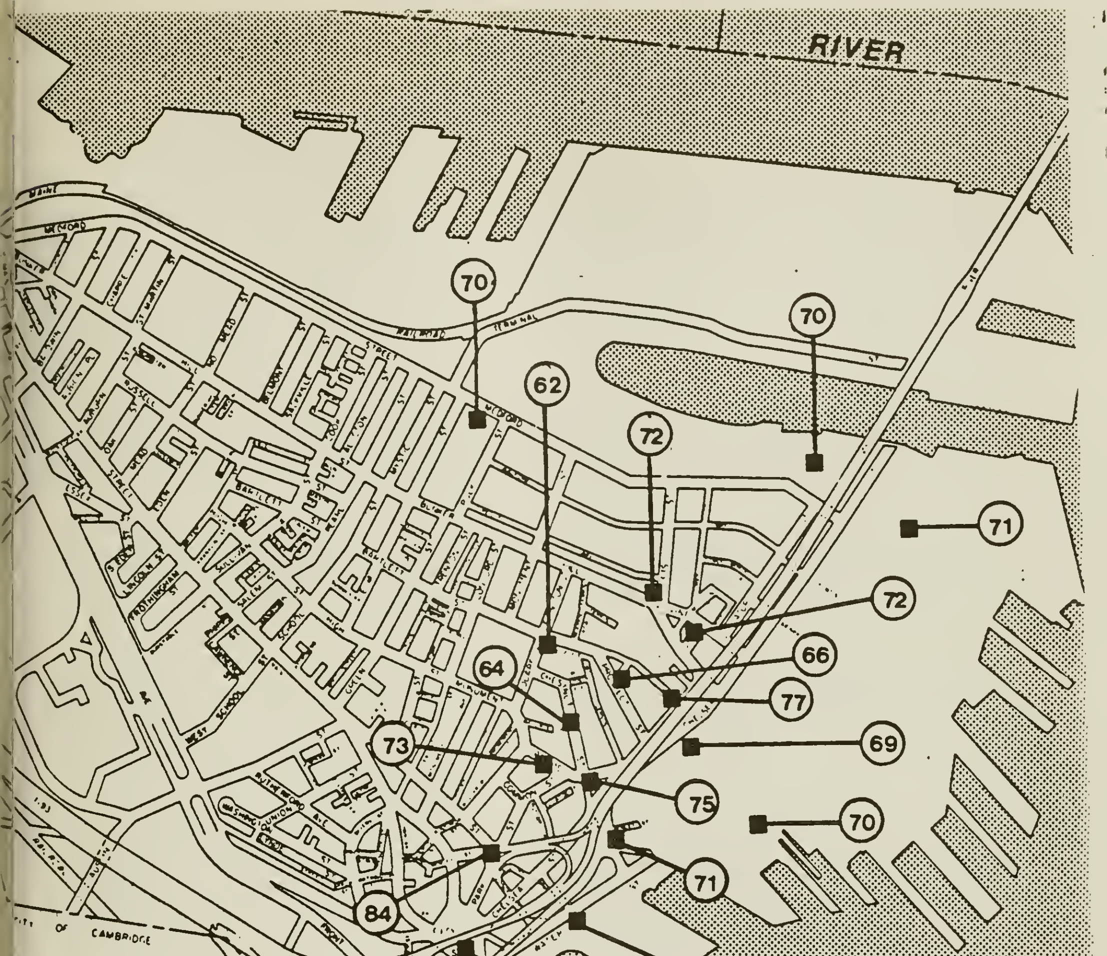


Fig. V.C-1
AMBIENT NOISE SURVEY

—Sensitive Receptors

(71)—Noise Level In L_{10}dB(A)

Chelsea-Water Street Connector
Little Mystic Channel Crossing
Draft Environmental Impact Statement

N

ʹeekday Rush Hour

FIGURE 25

Bulkhead-Repair and New Construction

The redevelopment of Hoosac Pier will require construction activity that may subject the surrounding area to short-term noise events. The demolition and site preparation phases of the project will be the noisiest. Because the activity will take place on the waterside of the Tobin Bridge, the effects of the noise on the residential areas should be minimal and non-intrusive.

Noise from construction trucks, estimated to be ten to twenty vehicles per day, will be short-term. Noise-generating construction equipment will be used during regular work day hours, and with proper noise mitigating measures should not present undue hardship on neighboring areas.

Table IV depicts decibel levels of various types of construction equipment at 50 feet. Since during the construction period of both the bulkhead and the proposed development, many of these will be used coterminously, an upper average noise level of 89 dBA has been estimated.

Since the effect of noise will decrease over distance, areas further away from the point source, such as the U.S.S. Constitution, will experience diminished impacts.

4.5.3 Operational Impacts

No Build and Bulkhead Repaired

Under the No Build and Bulkhead-Repair-Only Alternatives, there will be no net increase in noise levels on the site because of operations, since there will be no change in operations.

Proposed Action

Under the proposed Alternative there will be some increase in noise levels resulting from employee/patron traffic onto the pier itself. Again, however, this noise will be overshadowed by general traffic on the Tobin Bridge link to I-93.

Table IV

CONSTRUCTION EQUIPMENT NOISE LEVELS
(dBA, measured at 50 feet)

Type of Equipment	Range of Noise Levels
Scrapers	89 - 95 dBA
Scrapers, elevating	88
Graders	77 - 87
Dozers	87 - 89
Dozers with squeeky tracks	90 - 93
Dozers, sheepsfoot	82 - 88
Rollers	72 - 80
Rollers, vibrating	80 - 85
Loaders, bucket	80 - 81
Loaders, Terex	96
Backhoe	79 - 85
Backhoe, very large	91
Gradall	87 - 8[illegible]
Crane	80 - 85
Crane - bad example	95
Trucks, off highway	81 - 96
Trucks, asphalt	69 - 82
Trucks, concrete	71 - 82
Trucks, cement	91
Trucks, 14 wheel	88
Tractors with water pump	73 - 80
Pavers	82 - 92
Autograder	81
Compressors	71 - 87
Rock drill (handheld, pneumatic)	88
Rock drill (track mounted)	91
Concrete saws	87
Concrete saws, chain	[illegible] - [illegible]
Water pumps	75
Concrete pumps	75
Generators	[illegible] - 75
Concrete plant	9[illegible]
Asphalt plant	[illegible]

4.6 Water Quality Impacts

The Hoosac Pier ENF indicated that the principal source of water quality impacts attributable to this project would be associated with construction activities. Two major elements of the construction program presented in the ENF were rehabilitation of the bulkhead and the placement of fill to support a new bulkhead section. The EIR Scope issued by the Executive Office of Environmental Affairs requires that construction activities be examined to determine appropriate controls on emissions to the waters of Boston Harbor. The discussion below responds to this issue and focuses on the following: a) existing ambient water quality and bottom sediments; b) construction activities affecting water quality; c) the impacts on water quality; and d) appropriate controls.

With the exception of Alternative A-No Build, water quality impacts will be identical for Alternatives B and C. While included in the ENF, the placement of fill to support a new section of bulkhead has since been eliminated as a repair technique. Consequently, it is not considered in this discussion.

a) Existing Ambient Water Quality Conditions:

Hoosac Pier is situated in Boston Inner Harbor. The area around the Pier is tidally influenced at the mouth of the Charles River immediately downstream of the Charles River Dam Locks. The receiving waters of the Inner Harbor surrounding Hoosac Pier are classified as SC under the Massachusetts Department of Environmental Quality Engineering, Division of Water Pollution Control (MCWPC), Water Quality Standards. SC is the most severely polluted ocean water classification under the Water Quality standards. SC waters are defined as those suitable for protection and propagation of fish and recreational uses (i.e. Secondary Contact-boating, no swimming). Bottom sediments in Boston Inner Harbor generally exhibit significantly elevated levels of trace metals and for the purposes of this discussion, it is assumed that the sediments surrounding Hoosac Pier exhibit similar characteristics.

The receiving waters adjacent to the Pier are affected by a variety of discharges. These discharges include urban runoff, both direct and through storm water outfalls, combined sewer overflows and National Pollutant Discharge Eliminations System discharges (NPDES). Ambient water quality conditions in the vicinity of the pier were monitored in July, 1982 by the MDWPC.

The results of this monitoring program are not as yet published. However, oral communications with MDWPC staff indicate that certain SC standards may be exceeded at a variety of sampling stations within the Inner Harbor.

b) Construction Activities Affecting Water Quality:

The construction activities required for the repair and rehabilitation of the pier have been outlined and described previously. Water quality impacts resulting from construction will be limited to those associated with cleaning of the bulkhead and application of the protective coating.

Surface blasting of the sheetpiling surrounding the pier is required to remove rust and scale on the surface of the bulkhead. During the blasting abrasive grit, rust and scale will be emitted to the adjacent receiving waters.

Surface blasting of bulkhead and other marine related facilities are maintenance activities which occur with relative frequency in Boston Harbor. Areas within the Charlestown Navy Yard were blasted within the last two years. Further, on the East Boston Waterfront at Bethlehem Steel until it closed in November 1982, and in South Boston at the Boston Marine Industrial Park blasting is carried out routinely in ship refurbishing operations. Last year the National Park Service sandblasted the U.S.S. Cassin Young.

c) Impacts on Water Quality:

Blasting of bulkhead surfaces results in an uncontrollable emission to adjacent waters. The emission will be comprised of insoluble particulates including inert abrasive grit, rust and scale. Materials emitted during the blasting process will enter and ultimately pass through the water column. Particulates passing through the water column will become entrained in existing bottom sediments. It is anticipated that a significant percentage of the spent grit materials will pass through the water column rapidly. Certain of the scale and rust as well as a small percentage of spent grit may float on the surface of the water adjacent to the blasting area.

Any impact on turbidity resulting from proposed repair activities is expected to be localized and to occur over a limited time span. In that the blasting operation must immediately precede application of the protective coating, and that the coating must be applied in waters above 50°F it is expected that if an increase in turbidity should occur it will do so after the winter flounder spawning season which is February 1 - May 15. It is anticipated that the project will in no way contribute to an exceedance of SC water quality standards.[9]

d) Appropriate Controls:
In the event that the emission to the adjacent waters contributes to the formation of a sheen of floatable materials on the receiving waters, a boom will be placed in the area of blasting. Floating materials will then be collected and transported to an approved disposal site.

9/ MDUPC SC standard for Color and Turbidity - None in such concentrations that would impair any usages specifically assigned to this class.

MITIGATING
MEASURES

5.0 MITIGATING MEASURES

Traffic

The Massachusetts Port Authority has discussed the installation of a traffic signal at the Chelsea-Joiner Streets intersection with officials in the City of Boston Traffic and Parking Department. Such a signal will enable the traffic exiting from the Pier complex onto Joiner Street to cross Chelsea Street in order to reach the Expressway. The signal would be synchronized with the traffic signal at City Square to avoid queuing of Chelsea Street traffic. The new signal would give preference to Chelsea Street traffic. The City will analyze the traffic at the intersection before installation can proceed. The Authority will assume the cost of installing the signal if necessary.

The developer and Pier tenants will promote the use of car pooling and public transportation by employees. Priority parking spaces will be assigned to carpools, and tenants will be encouraged to support the MBTA Pass Program. Further, the developer and tenants will be encouraged to hire Charlestown residents who will be able to walk to the site. The developer is negotiating a contract for shuttle bus service between Hoosac Pier and the Haymarket and financial district with the operator of the Navy Yard Shuttle Bus.

Parking spaces on the pier premises could be made available to National Park Service visitors on weekends as provided in an arrangement to be made between the National Park Service and the developer. This would provide more convenient parking for tourists than is currently available.

Air Quality

The major air quality impact will result from increased traffic to the site. The measures described above to dissuade employees from driving private vehicles to the site will reduce the adverse impacts on air quality.

Visual Impacts

The new buildings will be designed to maintain and improve view corridors to the U.S.S. Constitution and from the Hoosac Pier site to the North End. The demolition of the dilapidated pier shed and rehabilitation of the pier itself will remove a visual blight from the Charlestown landscape.

Height

The 65 foot building height restriction which is part of the Boston Redevelopment Authority's Urban Renewal Plan for Charlestown will be observed. In fact, the buildings will be considerably lower than 65 feet.

Public Access and Safety

The issue of public access to the water's edge has always been a critical component of the planning process for Hoosac Pier. The Authority has planned a redevelopment program that provides opportunities for Charlestown residents and visitors to enjoy waterfront vistas from a vantage point never available to the community in the past. Under the terms of the Authority's development agreement, a piece of the property was set aside for the developer to maintain as a non-revenue producing public open space. In addition to this public open space overlooking the marina, the east edge of the Pier overlooking the U.S.S. Constitution was set aside for public access. These areas provide significantly different harbor viewing opportunities.

Since the Draft Environmental Impact Report was circulated, there have been many comments offered about the need for more extensive public access. The Authority and its designated developer, ODC/CMJ have been reviewing the feasibility of other public access alternatives in light of tenant security, distraction and developer liability issues. As a result, public access is to be expanded effectively to the entire perimeter of the Pier with certain discretion given to the developer. Under the terms of the ground lease the two pier faces without access in the DEIR will be open to the public from 5 P.M. until sundown during the week, and during daylight hours on weekends. The developer may temporarily close the pier apron after dark, during inclement weather or in the event that material handling, public disturbance, vandalism problems or repair work necessitate such a closing.

In addition, certain design solutions have been explored to determine their feasibility. They are:

1. Excavating Sidewalk - This would increase the differential between the first floor of the office building and the sidewalk outside to minimize distraction. Because this solution introduces the potential for flood problems, its feasibility is still being explored by the developer.

2. Raising Building Higher - This solution is being implemented because of flood insurance requirements which require the building to be raised at least one foot. If the floor is raised any higher, the roof will also be higher, and views of the U.S.S. Constitution will be affected.

3. Heavy Landscaping - There will be shrubbery where space permits between the building and the walkway, but the space devoted to landscaping takes away from that available for sidewalk.

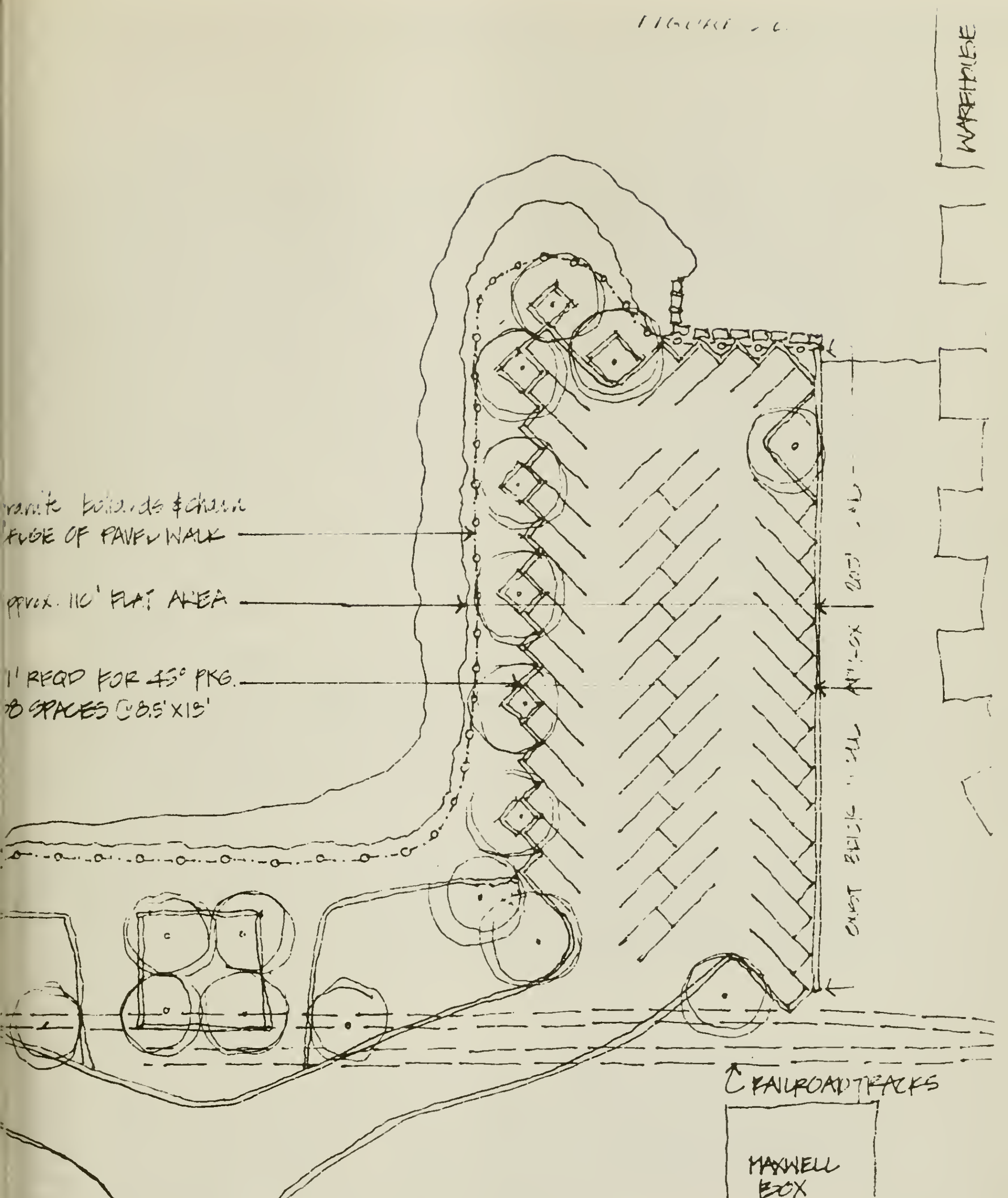
4. Reflective Glass - This material will probably be used in the buildings for energy conservation purposes. However, the reflection is on the exterior of the building and so this glass does not address the distraction problem.

Figure 26 shows the configuration of a public walkway along the overflow parking area. While the walkway is feasible, and the Authority is willing to require the lessee of the overflow lot to include it in his plans, it will reduce the numbers of parking spaces in the overflow lot by nine.

Finally a new design solution is offered which changes a major premise on which the DEIR was based, but which can address the concerns raised by those participating in the review process. A third level could be added to the original two story plan. There is no increase in total building square footage, but the site coverage is reduced. This allows for the building to be pulled in from the apron's edge which in turn provides more space for landscaping materials. It expands the apron area available for public access during daily office hours since some of the original ground level office space will be on a new third floor. This solution deviates from the premise that the building would retain the the two story height of the existing structure. Views of the U.S.S. Constitution which the Authority sought to maintain will be improved from the North End and all other vantage points except from the North Washington Street Bridge. Since this solution opens additional perimeter space for unrestricted pedestrian access to the waterfront it is possible that the trade-off of reduced vistas from the North Washington Street Bridge is acceptable.

The site has been planned in a manner consistent with a water transportation system should such a serivce become available in the Harbor in the future. The developer is anxious to become part of the planning group for such a service.

The Authority expects that pedestrian use of the pier perimeter will be for strolling and harbor viewing only. Should a pedestrian accidentally fall into the water there will be fender piles on the east and south pier face which have rows of spikes driven in them to provide a method to gain a foothold out of the water. This is not intended to invite boat owners to tie up to the Pier, but rather to provide a public safety tool.



MASSPORT/HOOSAC PIER MARINA/WEST PARCEL PARKING	Job No. 8119 Date 12/10/82 Scale 1" = 40'	ARCHITECTURAL RESOURCES CAMBRIDGE INC	Sheet No. 45° SCHEME

The Authority has deliberately decided to lease the entire pier area to the developer for several important reasons. Unlike at Commonwealth Pier, there are no passenger ship or other maritime operations at Hoosac except the marina and that portion of the site which could be used for a water transportation system docking area in the future. The clear space which is needed at Commonwealth Pier for the extensive berthing and loading requirements of major cruise ships is not an issue at Hoosac. Even when a water taxi is operational, its dockside equipment needs will be substantially less complicated than those of a cruise ship. Thus the Authority does not require control of the Pier edge in the case of Hoosac. Moreover, the Authority by leasing the space to the developer is free of maintenance and operating expenses from this facility. The developer even maintains the bulkhead. This arrangement allows the Authority to eliminate a drain on its finances and makes the Hoosac Pier a cash contributor to the operations of the Authority. The revenues so gained can be applied to the new Massport Marine Terminal in South Boston. This new facility will provide a "state of the art" maritime cargo handling terminal that will meet the space needs in the Port of Boston into the next century.

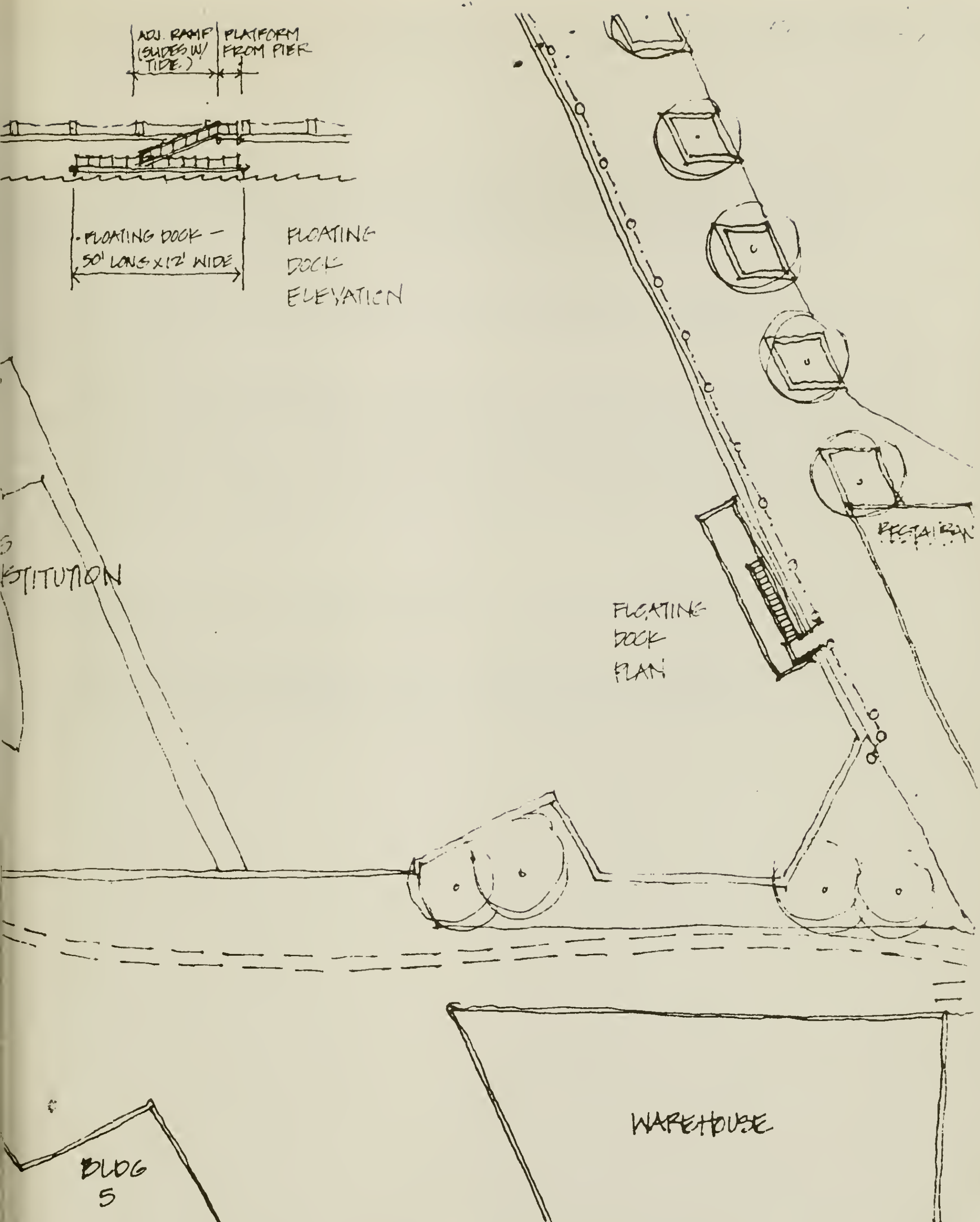
Figure 27 shows a rendering of the design for a potential floating dock for public landings. While such a dock is feasible, there are operational issues such as maintenance and staffing of the dock, which must be resolved. An alternative to A floating dock is a requirement in future marina leases that a certain number of slips be held aside for use by the general public. The current lease expires in January, 1986.

The fact that the developer leases the entire apron and is responsible for maintenance does not infringe on the amount of public access available. The Authority's lease with the developer specifically stipulates that the pier apron shall be accessible with previously cited restrictions. Thus the Authority is assured that public access will be maintained since violation of the lease terms by the developer would give the Authority cause for redress.

Construction Impacts

Prior to the commencement of construction activity, contractors will be advised of the proximity of Hoosac Pier to the historic U.S.S. Constitution and the need to drive slowly near the site because of the number of school children and tourists in the vicinity. Efforts will be made to respect the needs of tourists near the site through minimizing air quality and noise impacts of construction activity.

Trucks used during construction will be advised not to travel to the site during A.M. and P.M. peak hours. This will minimize any adverse impacts on traffic flow in City Square. The building construction crew will work from 7:00 A.M. to 3:30 P.M.



MASSPORT / HOOSAC PIER FLOATING DOCK	Job No. 8119 Date 12.10.82 Scale 1"=40'	ARCHITECTURAL RESOURCES CAMBRIDGE INC	Sheet No. DOCK SKETCH

Bulkhead Repair - An enclosure will be used to minimize effects on the U.S.S. Constitution and marina tenants. A boom will be employed as well to contain any debris during the rehabilitation. This will minimize adverse impacts on water quality and marine craft in the area.

The contractor will notify the marina operator concerning the detailed schedule for bulkhead repair to minimize the impact on marina tenants.

Building construction - The building design chosen minimizes impacts on noise, air and water quality because it requires no pile driving and no filling. During demolition of the pier shed and new construction, dust control techniques will be used. The asbestos panels from the pier shed will be removed manually with a crane assist. The site will be hosed down and the disassembled panels will be enclosed for truck delivery to an approved waste facility.

Noise - Noise generating construction equipment will be inspected for proper muffler devices. Construction activity will occur during normal weekday hours.

Historical Resources - If artifacts are revealed during construction, the Massachusetts Historical Commission will be notified and given an opportunity to examine the materials.

HOOSAC PIER

IMPACT SUMMARY SHEET

IMPACTS	ALTERNATIVE A: NO BUILD	ALTERNATIVE B: BULKHEAD REPAIRED	ALTERNATIVE C: PROPOSED DEVELOPMENT
TRAFFIC LEVELS	NO CHANGE	SLIGHT TEMPORARY INCREASE	SLIGHT INCREASE
NOISE LEVELS	NO CHANGE	SLIGHT TEMPORARY INCREASE	SLIGHT INCREASE
AIR QUALITY	SOME DETERIORATION	SLIGHT TEMPORARY DETERIORATION	SLIGHT DETERIORATION
WATER	POTENTIALLY MAJOR AND SERIOUS	SLIGHT TEMPORARY DETERIORATION	SLIGHT TEMPORARY DETERIORATION
SAFETY & SECURITY	DETERIORATING	NO CHANGE	MAJOR IMPROVEMENT
PUBLIC ACCESS	NO CHANGE	NO CHANGE	SIGNIFICANT INCREASE
COMMUNITY CONCERNS	ADVERSE EFFECT ON CITY SQ. REVITALIZATION	ADVERSE EFFECT ON CITY SQ. REVITALIZATION	POSITIVE IMPACT ON CITY SQ. REVITALIZATION
WATERFRONT REVITALIZATION	DETERIORATING	NO CHANGE	MAJOR IMPROVEMENT
ECONOMIC DEVELOPMENT/JOBS	NO CHANGE	SLIGHT TEMPORARY IMPROVEMENTS	MAJOR IMPROVEMENT
CONSTRUCTION PERIOD	NONE	4-6 MONTHS	18-24 MONTHS

Appendix

HOOSAC PIER

Final Environmental Impact Report

repared by

massport

Boston, Massachusetts

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PROPOSED DEVELOPMENT

Charlestown, Massachusetts

HOOSAC PIER

FINAL ENVIRONMENTAL IMPACT REPORT

APPENDIX

APPENDICES

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PERMITS

APPENDIX A

APPENDIX A

ENVIRONMENTAL PERMITS REQUIRED FOR HOOSAC PIER DEVELOPMENT

Before work begins, the Authority will seek an Order of Conditions from the Conservation Commission of the City of Boston.

The ENF for Hoosac Pier stated that the following permits would be sought:

Agency	Type of Permit
U.S. Army Corps of Engineers	Sections 10 and 404
Massachusetts Division of Environmental Quality Engineering	Chapter 91 license
Massachusetts Office of Coastal Zone Management	Consistency Finding

These permits were delineated in the ENF because at the time of submission the method of bulkhead repair had not been finally selected. One option had included some filling at the site which would have triggered the permit process cited in the ENF. Because the fill method is no longer being considered for the bulkhead repair under either Alternative B or C, there is no need to seek the permits.

The Massachusetts Historical Commission advised the Authority following their review of the Hoosac Pier ENF that review under Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800) was necessary. Said Section 106 review would be triggered by the Authority's filing for a permit to fill, from the U.S. Army Corps of Engineers. The Section 106 review would include a determination of the effects of the filling for the bulkhead repair on the adjacent U.S.S. Constitution and the Boston Naval Shipyard/Charlestown which are National Historic Landmarks.

Just as the filing for the Corps of Engineers' permit is unnecessary now because the bulkhead repair process no longer includes filling, the Section 106 review process is unnecessary and will not be performed.

Thus, under the proposed alternative, the only environmental permit needed will be the Order of Conditions from the Boston Conservation Commission.

TRAFFIC REPORT

APPENDIX B

APPENDIX B

TRAFFIC ASSESSMENT

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B-I
Traffic Impact Analysis

The results of the analysis of the Hoosac Pier proposed alternative indicate that the project has the potential to produce certain traffic impacts affecting the local street system in the City Square area. The results of the impact analysis can be summarized as follows: there is significant potential for adverse traffic impacts in the P.M. peak hour on City Square associated with congestion created at the Chelsea/Joiner Street intersection. Given the existing street system, these impacts can be minimized by the installation of a traffic signal at that intersection. Such a signal must be carefully synchronized with the traffic signal already operating in City Square. When the Chelsea-Water Street connector is built, there is the possibility that such a traffic signal would be unnecessary.

Except for a limited amount of on-site traffic data collection to verify vehicle movements, traffic signal operation and general congestion levels, this traffic impact assessment relied on previously-generated data sources. These are as follows:

1. A detailed manual assignment showing 1980 P.M. peak hour traffic flows in the City Square area. This traffic assignment was produced by the Central Transportation Planning Staff (CTPS) as part of the North Area Artery Study. Its original purpose was to aid in assessing the local street impacts associated with the North Area Project in the City Square area. For purposes of this EIR, this data source was used to establish a base distribution of City Square traffic at a level of detail sufficient for the assessment of local street traffic impacts produced by the proposed Hoosac development. Since this base reflected CTPS estimates of how 1980 traffic was distributed within the local street system, it was necessary to convert these flows to 1985 equivalent levels. This was accomplished by applying a growth factor of 1.16 uniformly to all 1980 City Square traffic flows generated by CTPS as described above. Derivation of this factor is explained in Section 2.

2. A CTPS - generated 1980 network forecast prepared during 1982 for the Third Harbor Crossing EIR. This forecast was prepared to assess the anticipated traffic impacts of a Third Harbor Crossing upon regional traffic facilities and major urban arterials. For purposes of this EIR, relevant portions of this 1990 forecast were used to interpolate a 1980-1985 growth factor with which to convert the 1980 City Square local street traffic flows to equivalent 1985 levels. The bases of this simple arithmetic process were the 1977 base year network traffic levels and the 1990 forecasts for selected roadway links. Segments of New Rutherford Avenue and the Charlestown Bridge were used as the basis for this exercise.

3. Data from the Central Artery cordon/screenline origin destination study conducted during 1977. This data was the result of an O-D survey to determine, among other things, the geographic distribution of users of the various CBD entry and egress routes. The data was used in this EIR as a basis for allocating Hoosac-generated traffic among the three major roadways which provide access to the City Square area. It was assumed that the route selection behavior of City Square office workers would, to a significant degree, resemble that of CBD workers with regard to regional facilities.

4. Chelsea-Water Streets Connector Negative Declaration Report. This report was prepared by the Massachusetts Department of Public Works to assess the environmental impacts associated with the proposed Chelsea-Water Streets Connector. It was used to clarify the function of the proposed connector and to help assess the effect which the Connector would have in reducing Chelsea Street P.M. peak hour southbound traffic volume. Use of the data given in this report led to the conclusion that most of the P.M. peak hour Lowney Way southbound traffic that now enters Chelsea Street would be diverted from Chelsea Street by the proposed Connector.

Using this data, the analysis leading to the conclusions about traffic impacts is presented in three parts: trip generation/modal split, geographic distribution and route assignment; and traffic impact assessment.

1. Trip Generation/Modal Split

The estimate of total peak hour traffic generated by the Hoosac Pier development was based upon the number of square feet of office space planned for the site, assumptions about the density of employees in that space, together with an empirically derived auto trip generation rate. A modal split assumption of 10% was incorporated into the auto trip generation factor.

The current level of transit usage for one prospective tenant is 47% of total employees based on the rate of MBTA pass purchases. This relatively high level of transit usage reflects the firm's current location in the CBD. While Hoosac Pier is near the CBD, it is not as well served by public transit so the mode split is expected to reflect a somewhat higher use of private vehicles. A split of 30% transit versus 70% private vehicle is the likely modal split. However, for purposes of this impact assessment we have assumed the transit share to be 10% in order to be conservative.

In the estimation of trip generation for Hoosac Pier the Wilbur Smith empirically-derived factor heretofore cited calls for a total daily auto arrival of 7.53 per 1000 square feet. Again, assuming a modal split of 10% is incorporated into this figure, and that the auto occupancy rate for those arriving cars is 1.4 which is lower than the Central Transportation Planning Staff (CTPS) figure of 1.76 which characterizes downtown traffic, there will be 5.4 vehicle arrivals per 1000 square feet. Of these, the bulk are employee trips with some visitor traffic occurring primarily in the off-peak hours. At a peak hour rate of 1.2 exiting vehicles per 1000 square feet there will be 180 vehicles.[10]

2. Geographic Distribution and Route Assignment

The travel pattern for Hoosac-generated vehicles was analyzed in two phases: the regional phase and the subregional phase. The results of the geographic distribution and route assignment process is summarized in Table B-1, Figure B-1 and Table B-2. Table B-1 and Figure B-1 show the points at which traffic departs the City Square area via regional highways. Table B-2 shows local street usage patterns. For the purpose of this analysis it was assumed that most Charlestown residents working at Hoosac Pier would walk or ride the bus to work. The number of vehicles arriving from Charlestown will be negligible. The discussion of local street usage relates to commuters using the local street network to reach the expressway network.

a) Regional Phase

The tasks of the regional phase were to identify the geographic distribution of residences of potential Hoosac Pier employees, and to assign the 180 vehicle trips between those points and the development site to specific regional highway facilities. The result of this task is a breakdown of the 180 vehicle trips departing the City Square study area by point of departure.

The resources available and the level of analytical sophistication required suggested that these two tasks, distribution and assignment, were best performed simultaneously. A major input assumption regarding the geographic distribution of origins is that Hoosac Pier employees will exhibit roughly the same residential distribution pattern as that which prevails for all Boston-bound peak hour traffic. The source upon which an estimate of this distribution is based is the 1977 Central Artery cordon/screenline data produced by the Massachusetts Department of Public Works. This data indicated relative volume levels of traffic using the various roadways providing access to the CBD.

10/ See Bird Island Flats Revised FEIR pg. A-3-10.

As such, it provides a useful representation of the route selection patterns associated with the existing residential distribution. With certain modifications to reflect the location of Hoosac Pier in Charlestown rather than the CBD, the Central Artery study data was used to indicate the distribution of Hoosac-bound traffic among the regional approach facilities.

Modifications to the CBD cordon entry data required for application to Hoosac Pier traffic involved such changes in route assignment as: reassigning the Charles River Dam and Longfellow Bridge cordon crossing traffic to I-93 South entering Charlestown; and splitting I-93 northbound traffic from the Charlestown Bridge traffic, since the bridge carries some City Square - bound traffic from the CBD seeking an alternative to the Central Artery from the South.

The result of this combined regional distribution/assignment process is given in Table B-1 and is summarized graphically in Figure B-1.

TABLE B-1

Hoosac Area Regional Traffic Access Routes

	%	Total P.M. Peak Hoosac Vehicles
I-93 Southbound	23	42
Rt. 1 Northbound	22	40
I-93 Northbound	48	85
Charlestown Bridge	7	13
	100	180

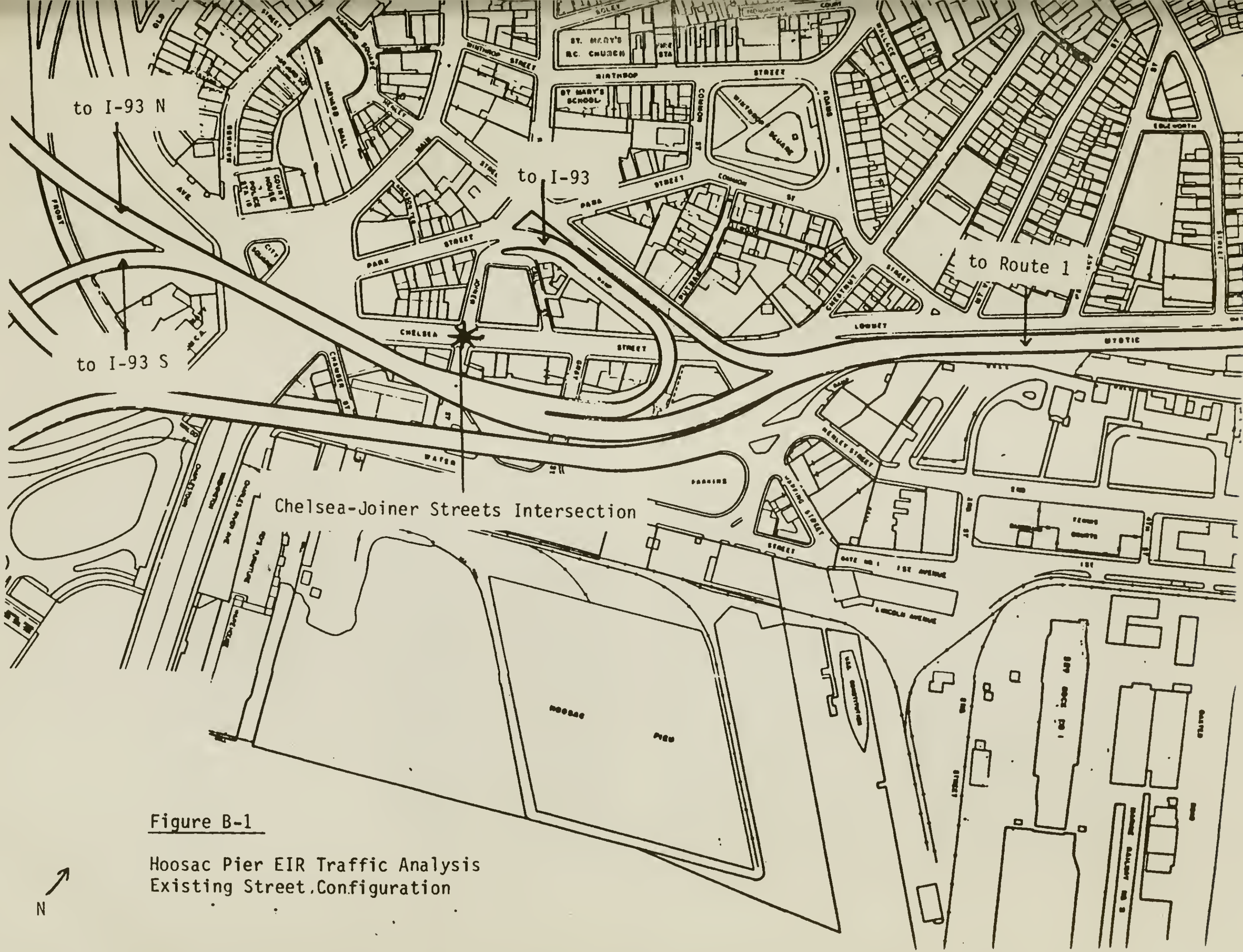

Figure B-1

Hoosac Pier EIR Traffic Analysis
Existing Street Configuration

b) Subregional Phase

In order to assess the impacts of the traffic generated by Hoosac Pier development on local streets, it is obviously necessary to assign traffic entering the study area to specific local routes which then carry the traffic to Hoosac Pier. This was done by examining the "existing" 1980 traffic patterns in the area and by making on-site observations of the traffic operation of local streets. The 1980 traffic patterns used for this analysis were provided by a manual traffic assignment conducted by the Central Transportation Planning Staff in connection with the North Area Artery study. The results of this local street traffic assignment are summarized in the matrix in Table B-2.

c) Traffic Evaluation

Based upon assessments of existing traffic levels, field observation of current traffic operations and the local street assignment as summarized in Table B-2, it is possible to identify and evaluate potential trouble spots. These are points in the street network in the City Square area at which traffic delays of any magnitude might conceivably be expected to occur. In most of the locations listed, the actual occurrence of such problems seems unlikely. This summary merely indicates the potential for delay problems which are not necessarily assignable to the Hoosac Pier traffic increment.

This traffic evaluation is based upon an estimate of local traffic conditions which would prevail under 1985 no-build conditions. The estimates of 1985 traffic levels were based upon a traffic growth factor for the general City Square area. This growth factor was determined to be 1.16 and was uniformly applied to all 1980 traffic levels in the City Square area.

The resulting 1985 traffic levels were evaluated against the physical charateristics of the local City Square street system both for arriving and departing traffic. Potential overall growth identified as a result of this evaluation is as follows:

Arrival Traffic (A.M. Peak Hour)

Location	Problem Definition
Henley St. - Park St.	Unsignalized intersection: 3.0% increase in Henley Street southbound traffic and a 2.5% increase in traffic entering the intersection.

TABLE B-2

Local Street Traffic Assignment

Regional Facility	I-93	Rt. 1-Tobin	Charlestown Bridge
Arrivals at Hoosac	Off ramp to Water Street and L. Turn into Main Gate.	Exit Tobin ramp onto Henley St.; Henley to Main St.; L. onto Main to City Square; through City Square to Water St. via Warren Ave. R. into Main Gate.	Sharp right at end of bridge onto Chambers St.; L. onto Water St. into Main Gate.
Departures from Hoosac	Exit Main gate; straight ahead onto Joiner St.; cross Chelsea to I-93 on-ramp.	Exit main gate; straight ahead onto Joiner St.; Right onto Chelsea to Tobin on-ramp.	Exit main gate; straight ahead onto Joiner; left onto Chelsea; through City Square to bridge.

Henley St. - Main St.	Unsignalized intersection: 3.0% increase in Henley Street southbound traffic and a 2.5% increase in traffic entering the intersection.
Main St. at City Square	2.5% increase in traffic entering City Square via Main St.; 2.5% increase in traffic making leftward movement around City Square at Rutherford St.; 1% increase in traffic after Rutherford St. traffic enters square; 170% increase in Warren Ave. traffic; 20% increase in Water St. traffic at the Charlestown Bridge underpass; and a 29% increase in Water St. traffic approaching the entrance to the site.
I-93 off-ramp at Water St.	Hoosac arrival traffic represents a 13% increase in off-ramp traffic.

Departure Traffic (P.M. Peak Hour)

Joiner St. - Chelsea St. intersection	All Hoosac departing traffic would enter this intersection, increasing the level of P.M. Peak hour intersection entries by 180 vehicles, or about 9%. Left turns into Chelsea St. would increase by 13 vehicles, or 10%.

Of the potential traffic trouble spots listed above, the Joiner-Chelsea intersection is the one which was felt to have the greatest potential for producing delays of any significance. This could occur because of the addition of 180 new vehicles to an intersection which is expected to admit about 2,100 P.M. peak hour entries in 1985[11]. Existing conditions are summarized in

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_11/ Although Gray Street, just north of Joiner is an additional route to Chelsea Street for access to Rt. 1 North, this analysis assumes that Joiner will be the only street used by Hoosac Pier traffic because the use of Gray Street requires a left turn movement.

Figure B-2; estimated 1985 conditions and the contribution of the proposed new development to 1985 traffic are shown in Figure B-3. While total intersection entries would increase by only 9%, as a result of the Hoosac development, left turns and straight through traffic from Joiner would increase by 53%.

While the theoretical capacities of the physical roadways involved appear sufficient to carry the traffic, the capacity of the intersection itself is another matter. Entry into the intersection from Joiner Street is currently awkward since it is constrained by heavy northbound Chelsea Street traffic leaving the City Square traffic signal during peak hours. As a result, the additional 180 P.M. peak hour vehicles could affect the intersection in two ways, depending on two different assumptions: (a) that the intersection would continue to be unsignalized and (b) that the volume levels involved will justify installation of a traffic signal.

a) Under non-signalized conditions, traffic attempting to enter or cross Chelsea Street from Joiner would encounter such strong resistance from Chelsea Street traffic that smooth and efficient intersection operation would be difficult to achieve. The traffic delay burden would be borne mostly by the Joiner Street traffic stream, since it would be forced to wait for acceptable gaps in the heavier Chelsea Street traffic stream. This conclusion is supported by the Highway Capacity Manual, which states:

> "An unsignalized intersection on a through route is seldom critical from a capacity standpoint. However, it may be of great significance to the capacity of a minor cross route, and it may influence the level of service on both."

b) If the intersection volume warrants, a traffic signal could be installed, providing a specified amount of green time to Joiner Street traffic. However, initial assessments of the situation suggested that the signal could conceivably create short-lived but severe Chelsea Street northbound queues during the P.M. peak hour. It was thought that these queues could extend back through City Square, creating congestion problems for 1985 traffic streams entering City Square. Those streams are expected to number 930 vehicles from Main Street in the P.M. peak hour and 2,780 vehicles from the Charlestown Bridge. The extent of this issue is examined in the next section.

3. Impact Assessment

The following discussion examines the impacts upon the Joiner - Chelsea Street intersection and the requirements for mitigation of those impacts.

FIGURE B-2

1980 P.M. Peak Hour Intersection Volumes

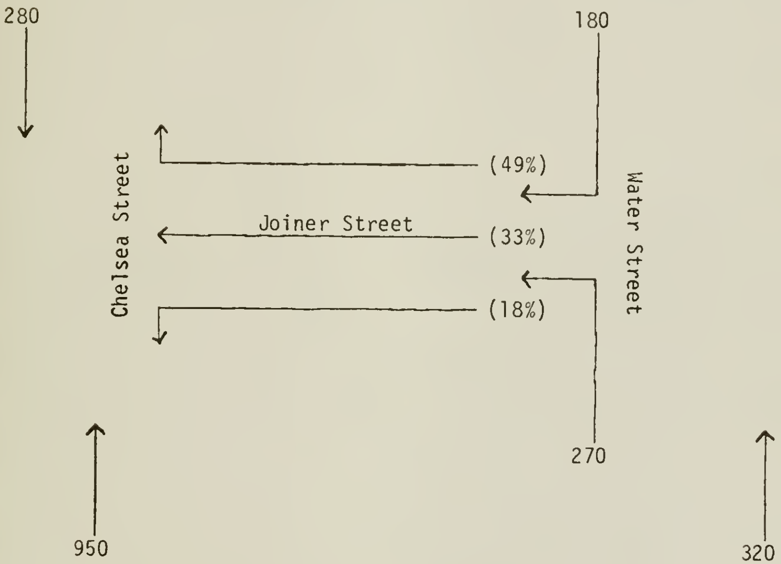
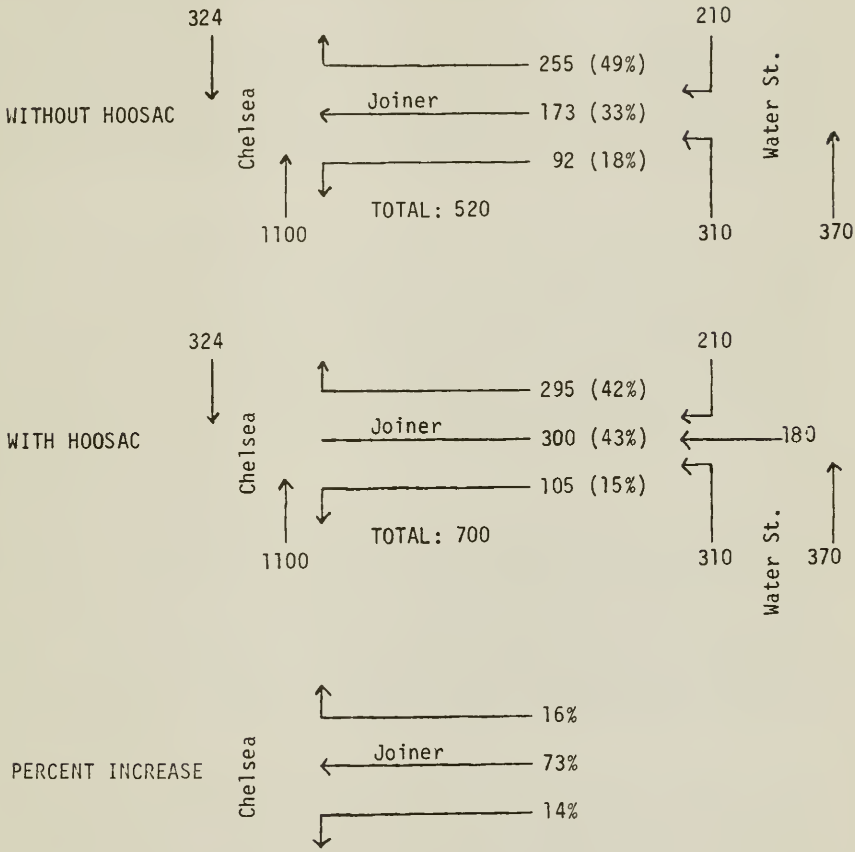


FIGURE B-3

1985 P.M. Peak Hour Intersection Volumes With and Without

Hoosac Traffic



Total increase in Chelsea-Joiner intersection volume of 2100 vehicles is 180 vehicles or 9%.

General techniques for determining the capacity levels for unsignalized intersections of the Joiner-Chelsea type are almost non-existent. Because intersection capacity analysis in general is so closely dependent upon signalization characteristics, any attempt to calculate a capacity of a non-signalized intersection would involve a substantial amount of on-site observation, data collection and analysis.

Based upon initial assessment of 1980 peak-hour intersection performance, the expected increase in traffic levels between 1980 and 1985, and the 9% increase in intersection entries associated with the Hoosac development, it would appear that the Joiner-Chelsea intersection would require at least peak hour signalization in order to provide for effective intersection operation.

The following discussion presents the results of an illustrative signalization analysis. The results indicate that the entry of the additional Hoosac-generated vehicles into the Chelsea-Joiner intersection necessitates a traffic signal at that point for reasons unrelated to the potential for interference with City Square traffic. This is because the platooning effect of the existing City Square signal provides for gaps of adequate length in the Chelsea Street northbound traffic stream to accommodate the intersection entries from Joiner Street.

Signalization Analysis

Assuming for the moment that the intersection is to be signalized, it is useful to take another look at its utilization characteristics. With the Hoosac development in place and without a Chelsea-Water Streets Connector, 700 vehicles are estimated to enter the intersection in the 1985 PM peak hour from Joiner Street. Based upon the same base data, the corresponding number of entries from north and south bound Chelsea Street is about 1,425 vehicles. The ratio of vehicle approaches for the intersection between Joiner and Chelsea is therefore a little less than one to two.

The timing of a new signal would have to take this ratio into account in arriving at the proper trade-off between two possible impacts of the signal. These are: (1) delays to the Joiner traffic stream affecting not just Hoosac departures, but also those vehicles using Joiner Street as a route from the I-93 off-ramp to Rt. 1 North via Chelsea Street and (2) delays to a variety of City Square movements resulting from a Chelsea Street Northbound queue created by the Joiner traffic signal.

In the absence of a Chelsea-Water Connector, the justification for a traffic signal at this location is the need to produce gaps in the Chelsea Street southbound traffic of adequate length to accommodate Joiner Street through movements and left turns. With the Chelsea-Water Streets Connector in place the need for a signal might not be so acute because some of

the current Chelsea Street southbound traffic would be diverted at Water Street and there would be more opportunity for Joiner Street traffic to move across Chelsea Street.

The signalized intersection is an academic issue if the North Area Artery project is built. With that project, the Chelsea/Joiner intersection is eliminated and a new intersection of Chelsea/Warren Street extended is created. This new intersection will be signalized.

a) <u>Chelsea Street Northbound</u>

Following is an illustrative analysis of the signalization requirements of the intersection focusing on the Chelsea Street northbound traffic stream.

The 1985 Chelsea Street northbound traffic volume in the P.M. peak hour is estimated to be 1100 vehicles, or 0.3 vehicles per second approaching Joiner Street, on the average. The distance along Chelsea Street to City Square from the Joiner Street intersection is about 250 feet. Assuming conservatively that a queue would require about 25 feet per car, a 250 foot queue would contain 10 vehicles. Since Chelsea Street Northbound vehicles would approach Joiner Street at 0.3 vehicles per second, these ten vehicles would therefore accumulate in about 3 seconds. The significance of this conclusion is that the Joiner Street entries could be given only 3 seconds of green time before a queue of unacceptable length would form on Chelsea Street. At 700 vehicles in the peak hour, or .19 vehicles per second, this 3 seconds of green time would theoretically allow only 0.5 cars to enter the intersection from Joiner Street during each green phase.

However, this theoretical analysis is misleading because traffic is never evenly distributed over the peak hour as the above calculations would assume. Traffic tends to be "platooned" or aggregated into different sized groups, by a variety of factors. Certainly, in this case, such platooning occurs as a direct result of the City Square traffic signal since it is so close to the Chelsea-Joiner intersection. Consequently, one can assume that during certain time periods, Chelsea Street northbound vehicles will approach the Joiner Street intersection at more closely-spaced intervals than that indicated by the average rate of 0.3 vehicles per second.

This poses the question of how to make the transition from theory to reality. One way is simply to assume that northbound platoons formed at the City Square traffic signal approach Joiner Street in groups of about 15 vehicles at a time. The platooning will result in closer spacing so that the flow rate is assumed to be 1 vehicle per second. These assumptions imply that the 1985 level of 1100 peak hour Chelsea Street northbound vehicles would approach Joiner Street in 55 platoons of 20 vehicles. This would require 55 green phases per hour, or maximum cycle times of about

65 seconds. At 1 car per second, each 20-vehicle platoon would pass Joiner Street in 20 seconds. If the new signal were synchronized with the signal at City Square, a Chelsea Street green phase as short as 20 seconds at Chelsea-Joiner would therefore be capable of accommodating Chelsea Street northbound traffic without producing a queue of undesirable length. This analysis reveals that from a capacity standpoint the intersection could easily be operated with a synchronized signal.

This analysis may not be realistic as far as the actual length of platoons is concerned. The point, however, is to dramatize the significance of synchronization of the two traffic signals. Since the Chelsea Street northbound traffic stream is heavily platooned and therefore does not approach the Joiner Street intersection in random intervals, it may be possible to accommodate both traffic streams as long as the two signals are synchronized. In theory, at least, the intersection is capable of handling the northbound traffic load under these conditions.

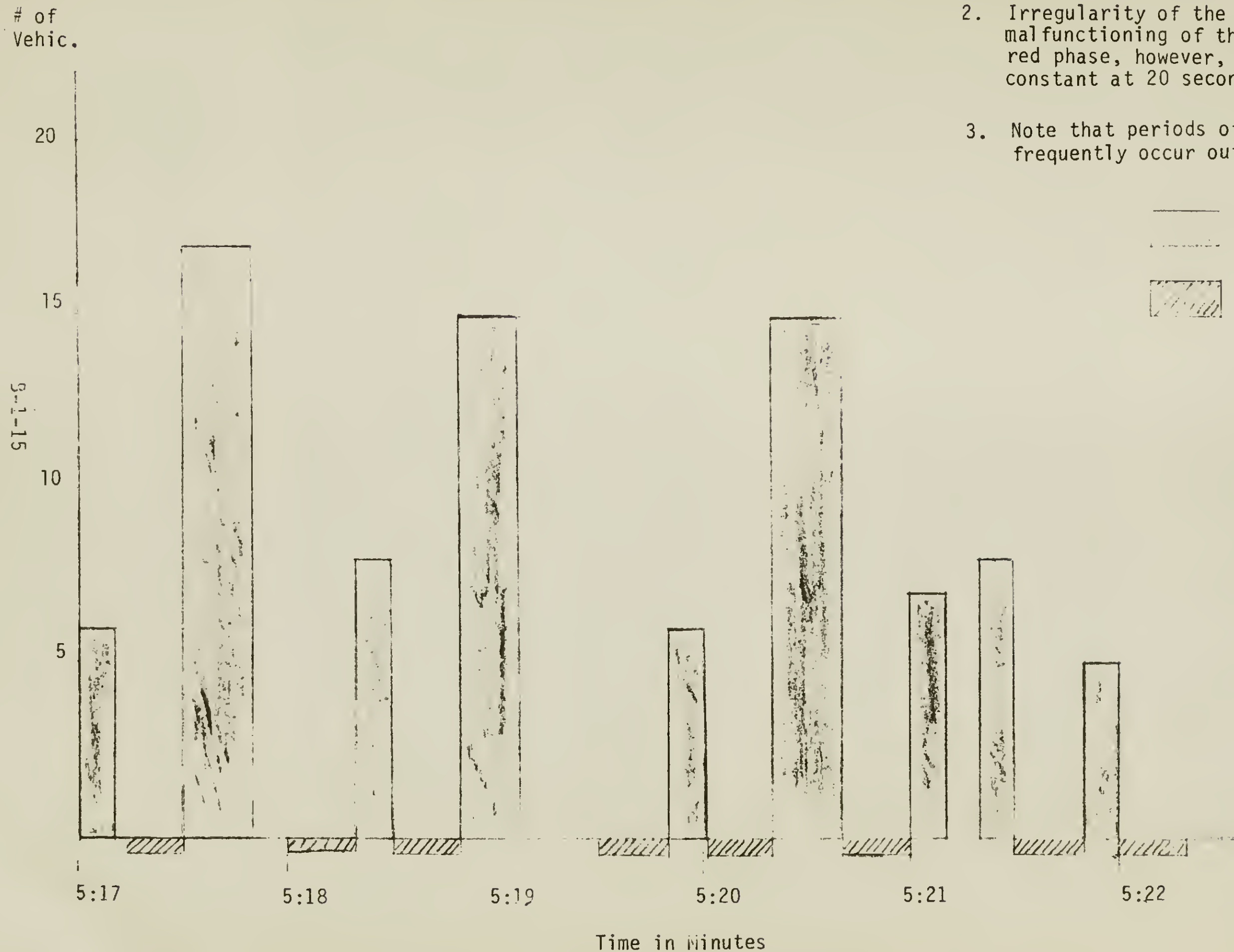
The problem is then reduced to the following question: would the Chelsea Street northbound platoons be well enough defined so that the vehicles arriving at Joiner Street during Chelsea Street red time do not exceed 10? Ten vehicles would produce queues affecting City Square through movements. Answering the question required data sufficient to assess the time distribution of Chelsea Street northbound traffic approaching Joiner Street during the P.M. peak hour. Such data was collected in the field on 6 August 1982 and is presented in Figure B-4.

The result of this field observation in the City Square area indicates that there are periods of significant length during which no northbound vehicles are approaching the Joiner Street intersection on Chelsea Street. These periods appear to correspond to the red phase of the City Square traffic signal as seen by traffic approaching from the direction of the Charlestown Bridge. This serves to confirm the suspected strength of the platooning effect of the City Square signal.

Unfortunately, the traffic signal was operating erratically during the period of observation because of a mechanical malfunction. There was therefore considerable variation in the length of the Charlestown Bridge green phase which varied from about 20 seconds to as long as 80 seconds in length. The red phase, however, remained quite consistent at 20 seconds. This irregularity in the structure of the signal cycle is illustrated in Figure B-4, which also shows the periods during which there is no Chelsea Street traffic approaching Joiner Street.

Despite this irregularity, it seems clear that there is a close correspondence between the Charlestown Bridge red phase and the occurrence of long gaps or zero traffic approaching Joiner Street. It therefore seems reasonable to assume, for example, that a 20 second red phase at City Square would produce periods of at least 20 seconds duration at Joiner Street during which no

THE PLATOONING EFFECT OF THE CITY SQUARE
TRAFFIC LIGHT ON CHELSEA STREET TRAFFIC
(Based on levels of volume observed between 5:17 P.M. and 5:22 P.M., on August 6, 1982)



NOTES

1. Intervals indicated to be the red phase refer to those periods when traffic approaching the northern terminus of the Charlestown Bridge is required to stop.

2. Irregularity of the phases is due to malfunctioning of the traffic signal. Th red phase, however, was observed to remai constant at 20 seconds duration.

3. Note that periods of zero vehicles also frequently occur outside the red phase.

northbound traffic would be approaching the intersection. If one assumes that a realistic signal cycle is 70 seconds in length, this would produce 51 cycles per hour, or about 1000 seconds of green time for Joiner Street traffic during the peak hour. This allows 1.4 seconds at bare minimum for each Joiner Street vehicle to enter the Chelsea Street traffic stream, which is more than adequate time to accomplish this movement. In all likelihood, this figure would be higher.

The conclusion of the Chelsea Street northbound portion of this analysis is that even without a new synchronized traffic signal at Joiner Street, it appears that the City Square signal creates platoons which are characterized by sufficient length and sharpness to allow ample opportunity for Joiner Street traffic to enter the Chelsea Street northbound traffic stream during a red phase which could be as short as 20 seconds.[12/] For this movement, which would consist of 286 vehicles or 42% of the total peak hour Joiner Street volume, there would be no need for a Joiner signal and therefore the problem of Chelsea Street queues created by such a signal is not an issue. However, even if there were a synchronized signal at Joiner Street the volume of the northbound platoons is such that northbound queues of unacceptable length would probably not form anyway.

b) Chelsea Street Southbound

Although the Chelsea Street northbound traffic will not result in Joiner Street queues necessitating a signal, there is however, still likely to be a problem for the remaining 58% of the Joiner Street traffic which would seek to cross the southbound Chelsea Street traffic stream or to execute left turns into that traffic stream. There would be 405 vehicles attempting these movements during the P.M. peak hour in 1985, when the southbound Chelsea Street traffic volume is 325 vehicles. Subjective judgments based upon peak hour observation of the unsignalized intersection under current 1982 peak hour traffic conditions suggest strongly that gaps in the Chelsea Street southbound traffic stream are generally of insufficient average length to accommodate safely the Joiner Street entries which in August 1982 numbered about 450 vehicles. It therefore appears that a synchronized traffic signal at the Chelsea-Joiner intersection would be required in order to provide the intersection capacity necessary to accommodate the added Joiner Street traffic produced by Hoosac Pier development.

12/ Given the Chelsea Street green time minimum requirement of 20 seconds and probable cycle length of 60 - 20 seconds, this must be considered a minimum.

An important exception to this requirement concerns the Chelsea-Water Streets Connector project. Since a primary purpose of that new road is to serve traffic currently using Lowney Way, it would have a significant reducing effect upon Chelsea Street southbound volumes. This is because an overwhelming proportion of Lowney Way southbound traffic now continues into Chelsea Street toward City Square. According to 1980 P.M. peak hour traffic estimates, 160 or 80% of the 200 P.M. peak hour vehicles approaching Chelsea Street from Lowney Way continue into Chelsea Street. These 160 vehicles represent about 57% of the "current" 1980 280 vehicles on Chelsea Street southbound approaching the Joiner Street intersection.

Of these 280 vehicles, 25% are currently executing a right turn at Joiner Street. This suggests that not all of the 160 vehicles diverted from Lowney Way by a Chelsea-Water Streets Connector would be removed from the Chelsea-Joiner intersection. If the 25% executing the right turn into Joiner Street is applied to the 160 vehicles originating in Lowney Way, then there would be 40 remaining vehicles which would still enter the Chelsea-Joiner intersection with a Chelsea-Water Street Connector in place. The difference is that these 40 vehicles would be shifted, entering the intersection from Joiner Street and proceeding in a westerly direction toward Park Street.[13]

The result of this reallocation of traffic by the Chelsea-Water Streets Connector is as follows:

1. The southbound Chelsea Street 1985 P.M. peak hour traffic volume entering the intersection would be reduced by 57%, from 325 vehicles to 140 vehicles. The difference is 185 vehicles, which is the 1985 equivalent of the diverted 160 vehicles mentioned above.

2. The corresponding straight-through and left-turning traffic entering the intersection from Joiner Street westbound would be increased by 11%, from 405 to 451 vehicles. The difference is 46 vehicles, or the 1985 equivalent of the 40 vehicles which remain in the intersection or explained above.

Instead of 405 Joiner Street vehicles placed in conflict with 325 Chelsea Street southbound vehicles, there would therefore be 451 from Joiner Street in conflict with 140 from Chelsea Street southbound. This is a reduction in the total conflicting traffic streams of 19%, from 730 vehicles to 591. Given this considerable reduction in the total conflicting traffic volume, it is likely that, given any significant degree of platooning, there would occur gaps of more than sufficient length to accommodate Joiner Street straight-through movements and left turns without a traffic signal.

13/ All above figures are expressed in terms of 1980 traffic figures.

Derivation of Traffic Numbers on Page 54

1. $\dfrac{180 \text{ vehicles - Hoosac Pier traffic increment}}{520 \text{ vehicles on Joiner Street without Hoosac}} = 35\%$

2. $\dfrac{180 \text{ vehicles = Hoosac Pier traffic increment}}{1944 \text{ total vehicles at Chelsea/Joiner in Peak Hour without Hoosac}} = 9\%$

3. $\dfrac{40 \text{ vehicles = Hoosac Pier increment turning right at Chelsea from Joiner}}{180 \text{ vehicles = Hoosac Pier increment on Joiner Street}} = 22\%$

4. $\dfrac{255 \text{ vehicles turn right at Chelsea Street without Hoosac}}{520 \text{ vehicles on Joiner Street westbound without Hoosac}} = 49\%$

   $\dfrac{295 \text{ vehicles turn right at Chelsea Street with Hoosac}}{700 \text{ vehicles on Joiner STreet westbound with Hoosac}} = 42\%$

5. 49% - 42% = 7%

6. $\dfrac{140 \text{ vehicles = Hoosac Pier making left or straight movement at Chelsea Street}}{265 \text{ vehicles making left or straight movement at Chelsea Street withoutt Hoosac}} = 53\%$

7. $\dfrac{127 \text{ vehicles = Hoosac Pier straight through Joiner/Chelsea from Joiner}}{180 \text{ vehicles = total Hoosac Pier traffic on Joiner Street westbound}} = 71\%$

8. $\dfrac{40 \text{ vehicles = Hoosac Pier traffic turning right at Chelsea from Joiner}}{295 \text{ vehicles = total Joiner Street westbound traffic turning right at Chelsea.}} = 14\%$

B-III

Sensitivity Analysis

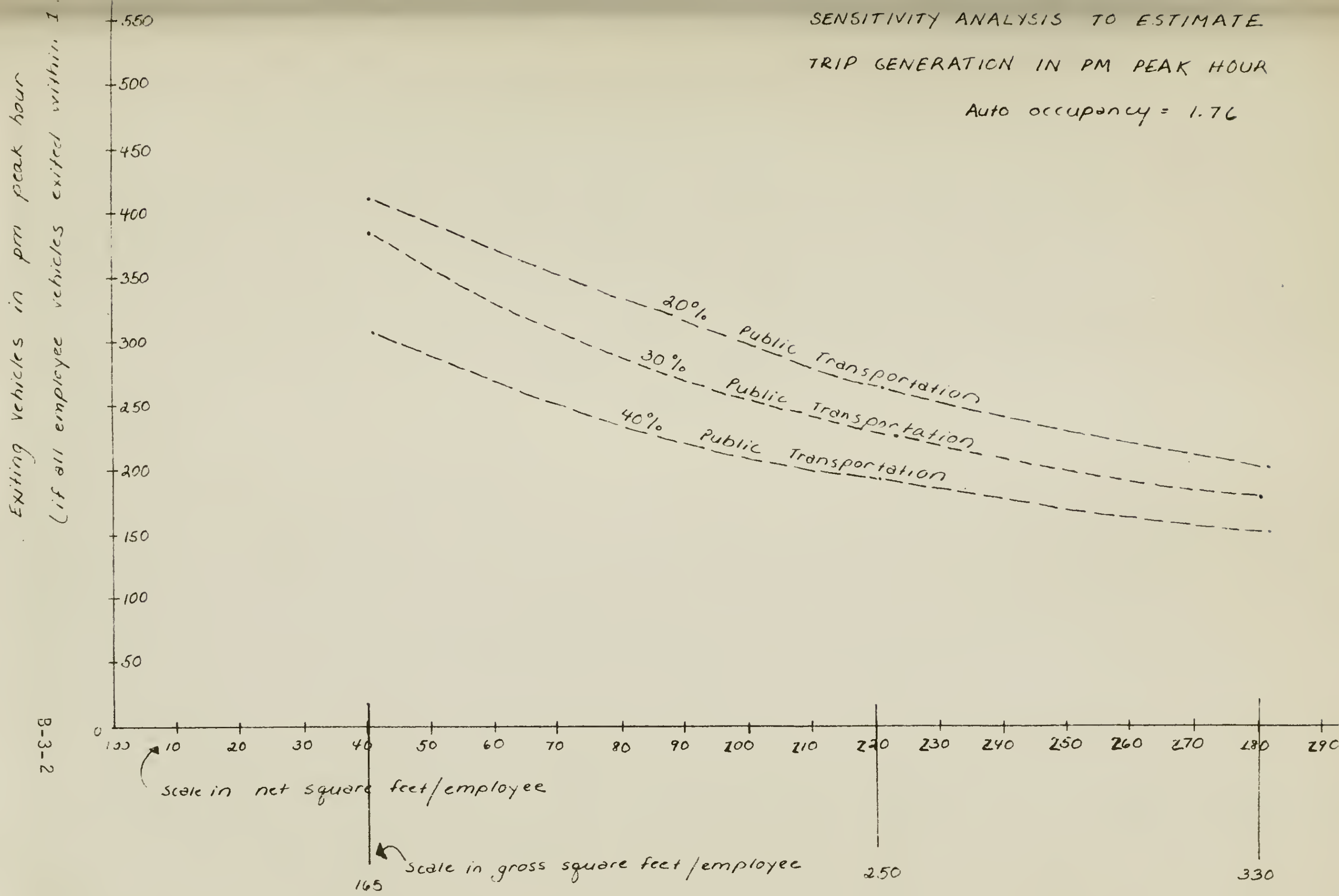
The curves shown on the following two pages illustrate the sensitivity of total existing vehicles generated by the Hoosac development to three variables. These are average auto occupancy, net square feet of occupied floor space and modal split. The first graph reflects an auto occupancy rate of 1.76 and the second shows a lower rate of 1.4. Modal splits with 20, 30 and 40% transit use are plotted. To determine the influence of different modal split assumptions upon total vehicles, the reader should pick a point on the horizontal axis which depicts square feet per employee. Having selected the appropriate square foot point, the reader should then cross-plot the modal split against levels of traffic generation which appear opposite the intersection points on the vertical axis.

The chart on page B-3-4 gives the same information in tabular form. It should be noted that this method of analysis appears to result in a higher number of exiting vehicles than the method using the Wilbur Smith model previously cited. However, the sensitivity analysis shows all exiting vehicles and not just those exiting in the P.M. peak hour. The number should be ajusted accordingly.

SENSITIVITY ANALYSIS TO ESTIMATE

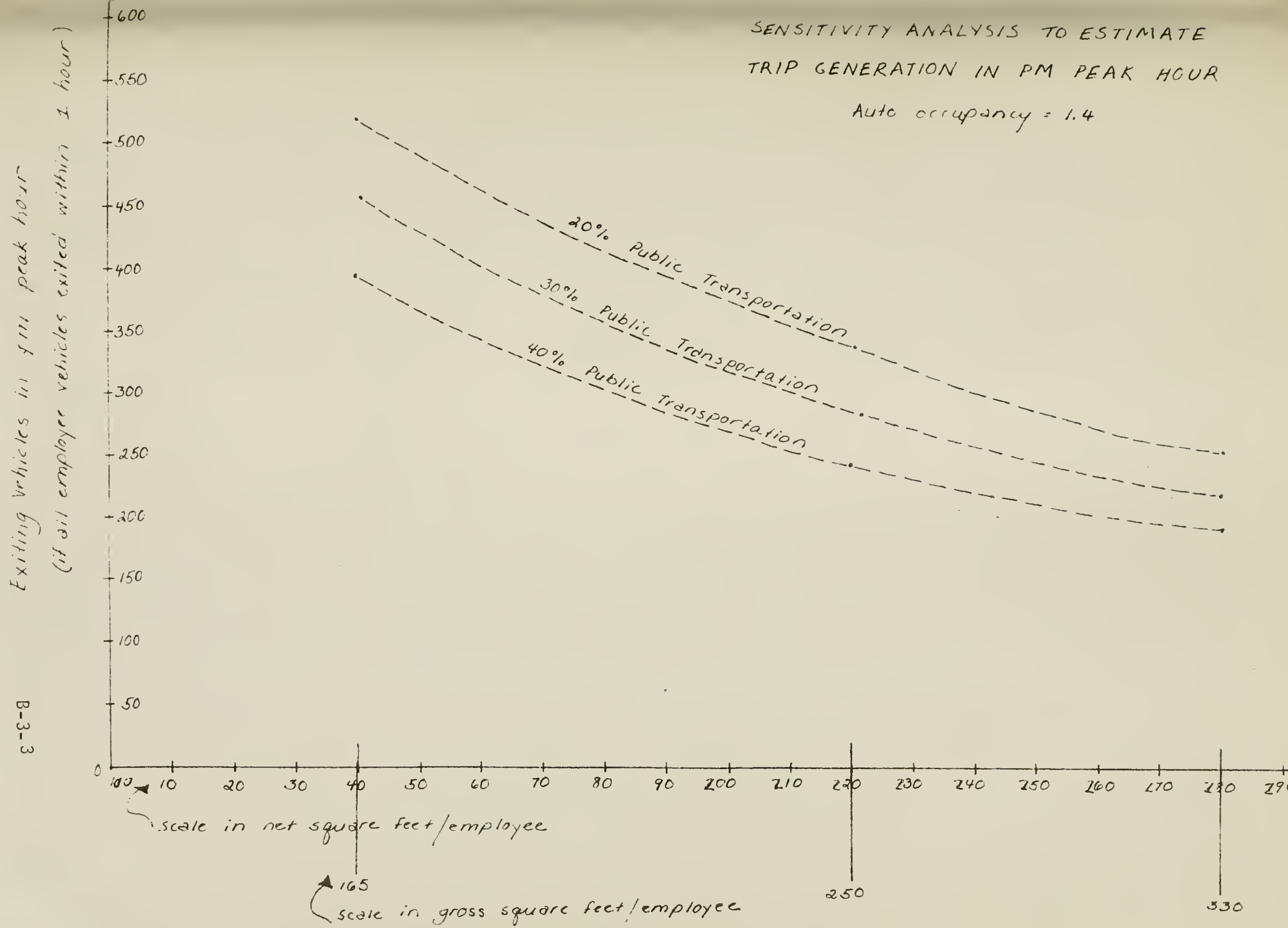
TRIP GENERATION IN PM PEAK HOUR

Auto occupancy = 1.76



SENSITIVITY ANALYSIS TO ESTIMATE TRIP GENERATION IN PM PEAK HOUR

Auto occupancy = 1.4



Traffic Generated by Office Complex at Hoosac Pier

127,500 Net SF - (150,000 Gross Square Feet X 0.85)

Gross Square Feet Per Employee	165						259						333					
Net Square Feet Per Employee	140						220						283					
Number of Employees	911						580						450					
Employee Arrival or Departure by Public Transportation (%)	20%		30%		40%		20%		30%		40%		20%		30%		40%	
Employees Arriving or Leaving by Automobile	729		638		547		464		406		348		360		315		270	
Auto Occupancy	1.4	1.76	1.4	1.76	1.4	1.76	1.4	1.76	1.4	1.76	1.4	1.76	1.4	1.76	1.4	1.76	1.4	1.76
Entering or Exiting Employee Vehicles Per Day	521	414	455	372	319	311	331	264	290	231	249	198	257	204	225	179	193	153

AIR QUALITY DATA

APPENDIX C

APPENDIX C

Air Quality Assessment

Table of Contents

FIG. A-1

QUALITY RECEPTOR SITES

I. Microscale 1-Hour Concentrations

Microscale Analysis - In order to quantify the relative air quality impacts of the various alternatives, two types of analysis were performed; a microscale and a mesoscale analysis.

In each case, the primary sources were assumed to be the Mystic Bridge, the connecting ramps, City Square surface roads and where appropriate, local streets. Since carbon monoxide effects tend to be localized around the sources, it was judged, therefore, that locations sufficiently close to major travel facilities would give a reasonable approximation of CO concentrations, in the absence of detailed information about the future design of local streets.

Table 7 - Predicted One-Hour CO Concentrations (ppm) for Projected Alternatives (includes background CO)

		Kent School	Gate #1	City Square	Park Street Houses	Proposed Park
Alternative 1* -	1975	11.4	7.3	42.5	-	-
	1980	10.5	5.6	32.7	-	-
	2000	9.0	4.9	11.8	-	-
Alternative 2 -	1980	10.5	5.6	30.5	-	-
	2000	9.0	4.9	10.6	-	-
Alternative 3 -	1980	7.6	8.4	10.3	6.5	23.1
	2000	3.1	3.2	5.6	3.6	9.8

A review of Table 7 indicates that at no location is the air quality standard (35 ppm) exceeded under any alternative. In City Square where the standard is exceeded in the present case (42.5 ppm - Table 6) concentrations are expected to be reduced below the air quality standard regardless of the alternative.

For Alternative #3 it may be noted that for the years 1980 and 2000, the cumulative CO concentrations from the respective tunnel portals, the area roadway links, and the background resulted in CO levels at the receptors which were below State and Federal Standards.

*Alternative 1 - The no-build North Area Artery Project would entail the replacement of existing decks only.

Alternative 2 - This calls for deck replacement and reconstruction of streets in City Square, but results in no improvement in traffic operations on local streets.

Alternative 3 - This calls for a tunnel/ramp scheme to replace the viaduct structures in City Square.

J. Microscale 8-Hour Concentrations

Estimation of the maximum 8-hour CO concentration expected to occur from each case for 1980 and 2000 was calculated. The average maximum 8-hour was determined for both major roadways and local streets. With the exception of speed and volume being modified, all other parameters, i.e. wind speed, distance, etc., for the 8-hour analysis was the same as the 1-hour microscale analysis.

Predicted 8-hour CO concentrations are shown in Table 8 for all alternatives.

Table 8 - Predicted 8-Hour CO Concentrations for Project Alternatives (ppm) (includes background CO)

		Kent School	Gate #1	City Square	Park Street Houses	Proposed Park
Alternative 1	-1975	6.9	4.3	20.6	-	-
(No Build)	1980	6.8	3.5	16.3	-	-
	2000	5.0	* 3.7	7.4	-	-
Alternative 2	-1980	6.8	3.5	15.4	-	-
	2000	5.0	* 3.7	7.4	-	-
Alternative 3	-1980	3.0	3.2	3.6	3.1	7.2
	2000	1.4	1.5	2.0	1.7	3.2

* Assumes construction of new Chelsea/Water Streets Connector

From Table 8, it can be seen that, with the exception of 1980, for alternatives #1 and #2, there are no exceedances of the eight hour standard (9ppm). There are no violations of the standard in 2000.

The Commonwealth of Massachusetts, Department of Environment Quality Engineering has determined the project to be consistent with the Air Quality Implementation Plan.

K. Mesoscale Analysis

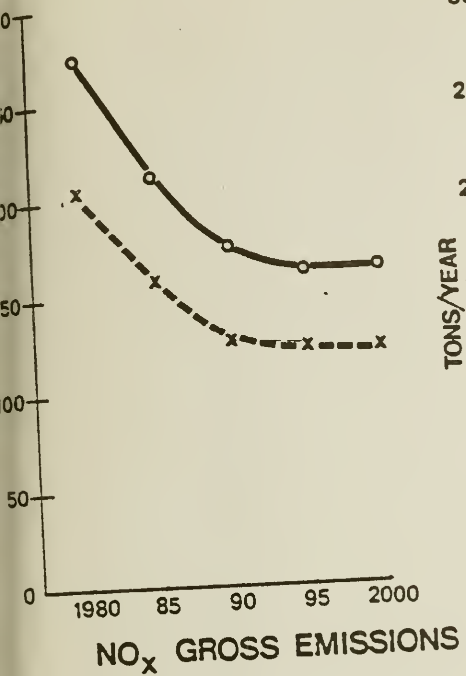
The second analysis was a calculation of gross emissions associated with the No Build alternative (Alternative #1) and the chosen alternative (Alternative #3). Calculations were performed for projected 1980 and 2000 traffic volumes for CO, HC and NO_x. In addition, gross emissions were also determined for the intervening years in 1985, 1990 and 1995.

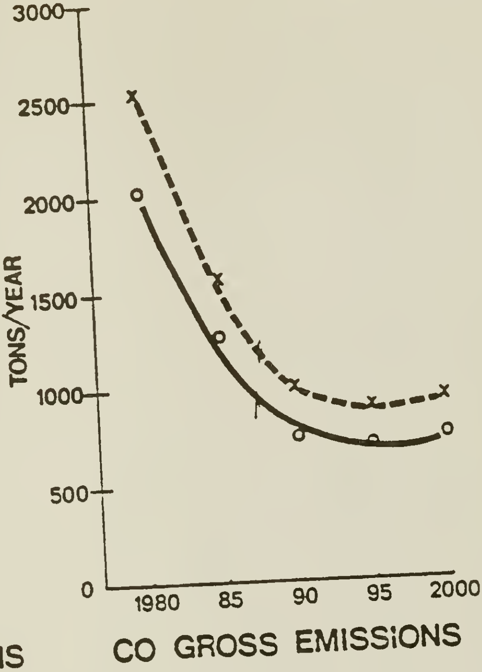
The total quantity of each pollutant in the project area was estimated for each case applying the most recent EPA motor vehicle emission factors (MOBILE 1) to the traffic on the project area roadways.

Table 9 presents the total annual emissions of carbon monoxide (CO), hydrocarbons (HC), and oxides of nitrogen NO_x for the No Build and chosen alternatives. The result of Alternative 2 are nearly identical to the No Build alternative.

Table 9 - Emission of Carbon Monoxide, Hydrocarbons and Nitrogen Oxides (Tons/Yr)

Pollutant	1980	1985	1990	1995	2000
			No Build		
CO	2541	1543	1020	917	945
HC	292	148	102	100	103
NO_x	208	162	127	123	120
			Alternative 3		
CO	2038	1279	773	696	734
HC	267	124	70	63	65
NO_x	277	220	172	165	166





NO BUILD (ALT. 1)

PROPOSED (ALT. 3)

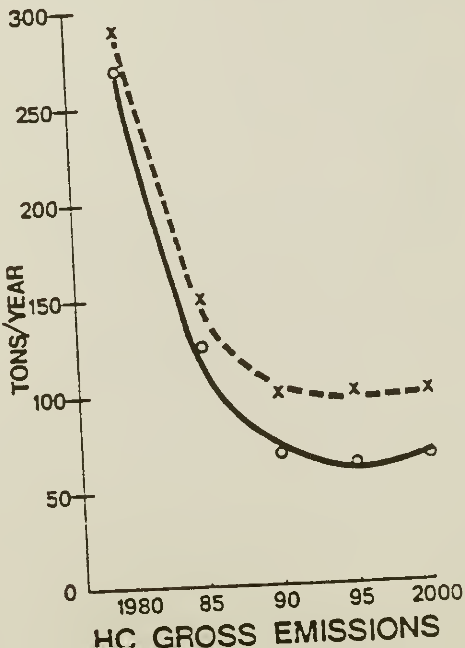
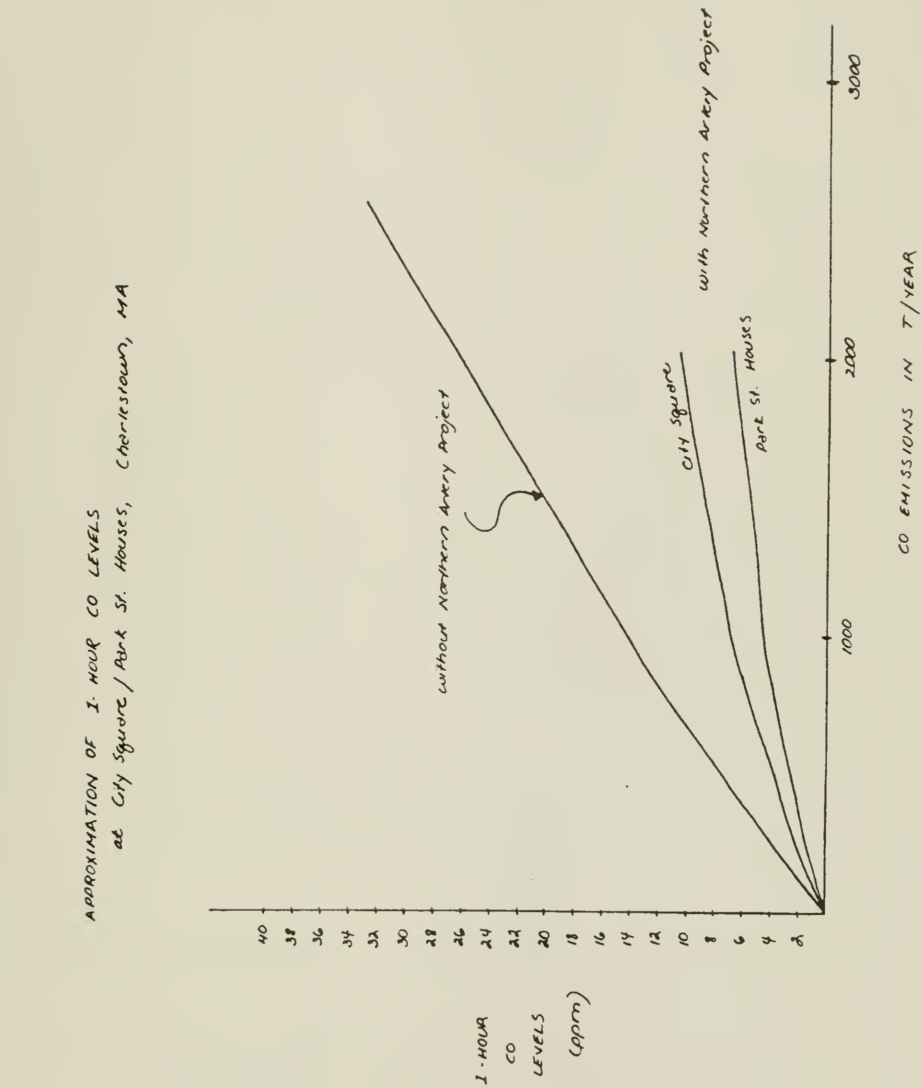
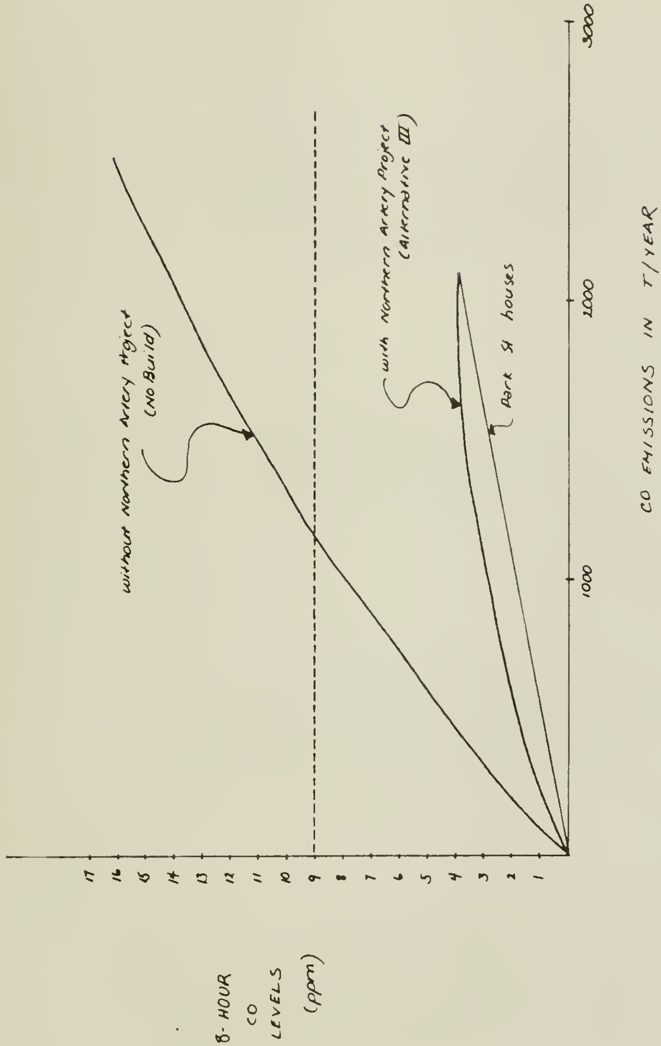


FIG. A-2

APPROXIMATION OF 1-HOUR CO LEVELS
at City Square / Park St. Houses, Charlestown, MA




8-HOUR CO LEVELS (ppm)
CO EMISSIONS IN T/YEAR
without Northern Artery Project (No Build)
with Northern Artery Project (Alternative III)
Park St houses
1000
2000
3000
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Walden

AIR QUALITY IMPACT ANALYSIS
OF PROPOSED LITTLE MYSTIC CHANNEL
CROSSING IN CHARLESTOWN,
MASSACHUSETTS

By

K. W. Wiltsee, Jr.
Dr. R. D. Siegel
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Cambridge, Massachusetts 02138

December 1, 1975

(C-705)

FIGURE E-25
WORST CASE EIGHT-HOUR CARBON MONOXIDE
CONCENTRATIONS (PPM), 1985
TRAFFIC PROJECTION A
BUILD ALTERNATIVE 1 (NO-BUILD)

Chelsea-Water Street Connector
Little Mystic Channel Crossing
Draft Environmental Impact Statement

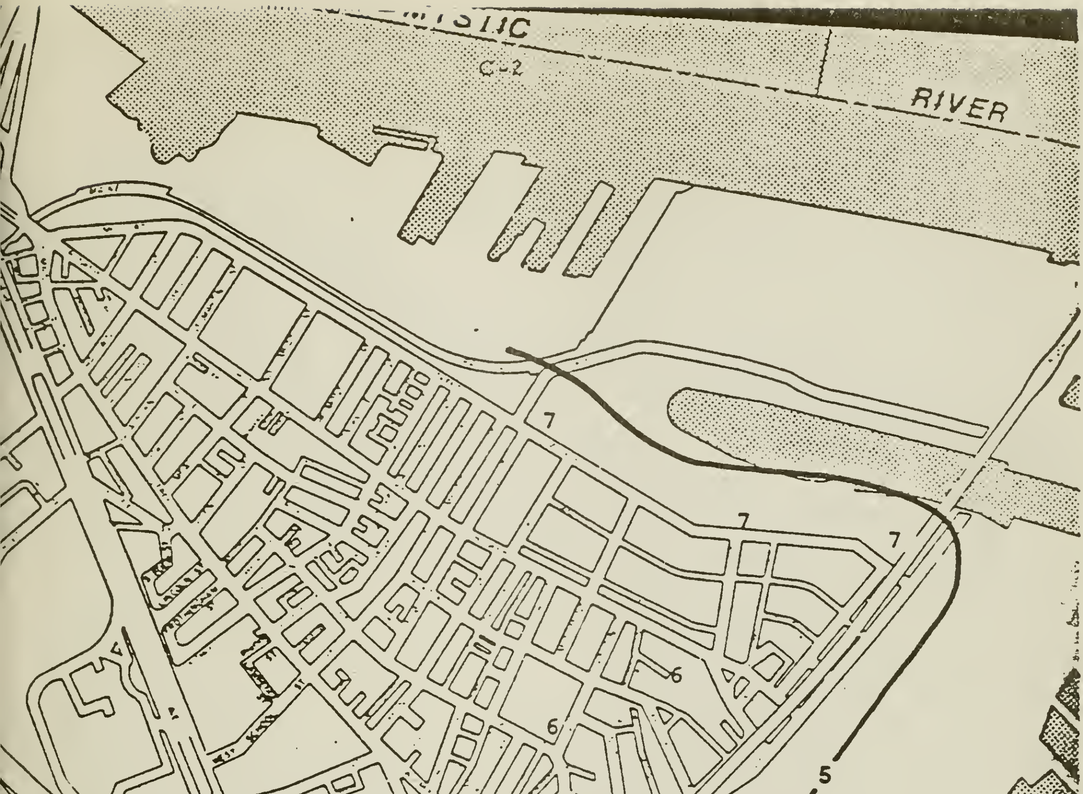

FIGURE E-26
WORST CASE EIGHT-HOUR CARBON MONOXIDE
CONCENTRATIONS (PPM), 1985
TRAFFIC PROJECTION A
BUILD ALTERNATIVES 2, 2A, 3, 4

FIGURE E-30
WORST CASE EIGHT-HOUR CARBON MONOXIDE
CONCENTRATIONS (PPM), 1985
TRAFFIC PROJECTION B
BUILD ALTERNATIVES 2, 2A, 3, 4

E- 13

UM 1-HOUR CARBON MONOXIDE CONCENTRATIONS (PPM) AT SELECTED
TIVE RECEPTORS - TRAFFIC PROJECTION A

ceptor	No-Build 1976	No-Build 1985	No-Build 1995	Build Alt. 2,2A,3 1976	Build Alt. 2,2A,3 1985	Build Alt. 2,2A,3 1995	Build Alt. 4 1976	Build Alt. 4 1985	Build Alt. 4 1995
r Bill Monument	21.5	10.5	11.3	22.0	10.5	11.0	22.0	10.5	11.0
Square	51.8*	23.6	23.7	51.9*	21.9	23.6	51.4*	21.9	23.6
School	~~22.5~~	~~10.6~~	12.0	22.4	10.5	11.2	22.4	10.5	11.5
ard (Gate #1)	18.9	9.1	9.4	20.9	10.2	14.5	20.9	10.9	18.6**
ed High School nal and Medford s)	26.1	13.1	14.0	25.3	11.5	12.5	25.3	11.5	12.5
Playground ea and Medford s)	23.9	11.8	12.9	25.1	12.4	13.0	25.1	12.4	13.0
Housing Area d and Tufts)	26.3	13.4	15.0	25.5	11.8	13.2	25.5	11.8	13.2

ds Massachusetts and Federal 1-hour standard of 35 ppm.

cipated concentrations will be lower if the capacity constraint of
rnative 4 inhibits full redevelopment of the northern Shipyard. See
on page .

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ıLE E-14.
:IMUM EIGHT-HOUR CARBON MONOXIDE CONCENTRATIONS (PPM) AT SELECTED
ISITIVE RECEPTORS - TRAFFIC PROJECTION A

:eptor	No-Build 1976	No-Build 1985	No-Build 1995	Build Alt. 2,2A,3 1976	Build Alt. 2,2A,3 1985	Build Alt. 2,2A,3 1995	Build Alt. 4 1976	Build Alt. 4 1985	Build Alt. 4 199
ıker Hill Monument	12.4*	6.0	6.5	12.7*	6.0	6.3	12.7*	6.0	6.
:y Square	29.8*	13.6*	13.6*	29.9*	12.6*	13.6*	29.9*	12.6*	13.
ıt School	12.9*	6.1	6.9	12.9*	6.0	6.4	12.9*	6.0	6.
ry Yard (Gate #1)	10.9*	5.2	5.4	12.0*	5.9	8.3	12.0*	6.3	10.
pposed High School erminal and Medford :eets)	15.0*	7.5	8.0	14.6*	6.6	7.2	14.6*	6.6	7.
:ry Playground ıelsea and Medford :eets)	13.7*	6.8	7.4	14.4*	7.1	7.5	14.4*	7.1	7.
olic Housing Area edford and Tufts :eets)	15.1*	7.7	8.6	14.7*	6.8	7.6	14.7*	6.8	7.

:xceeds Massachusetts and Federal 8-hour standard of 9 ppm.

Anticipated concentration will be lower if the capacity constraint of Alternative 4 inhibits full redevelopment of the Shipyard. See note on page .

BLE E-15
XIMUM ONE-HOUR CARBON MONOXIDE CONCENTRATIONS (PPM) AT SELECTED
NSITIVE RECEPTORS - TRAFFIC PROJECTION B

ceptor	No-Build			Build Alt. 2,2A,3			Build Alt. 4		
	1976*	1985*	1995*	1976*	1985	1995	1976*	1985	19
nker Hill Monument					10.5	11.1		10.5	11
ty Square					23.9	24.0		23.9	24
nt School					10.6	11.4		10.6	11
vy Yard (Gate #1)					10.6	15.2		10.7	19
oposed High School erminal and Medford reets)					11.6	12.7		11.6	12
rry Playground helsea and Medford reets)					12.5	13.1		12.5	13
blic Housing Area edford and Tufts reets)					11.9	13.3		11.9	13

Not evaluated.

BLE E-16
XIMUM EIGHT-HOUR CARBON MONOXIDE CONCENTRATIONS (PPM) AT SELECTED
NSITIVE RECEPTORS - TRAFFIC PROJECTION B

ceptor	No-Build			Build Alt. 2,2A,3			Build Alt.		
	1976*	1985*	1995*	1976*	1985	1995	1976*	1985	19
nker Hill Monument					6.0	6.4		6.0	
y Square					13.7†	13.8†		13.7†	
t School					6.1	6.6		6.1	6.
y Yard (Gate #1)					6.1	8.7		6.1	
posed High School rminal and Medford eets)					6.7	7.3		6.7	7.
ry Playground lsea and Medford eets)					7.2	7.5		7.2	
ic Housing Area ford and Tufts eets)					6.8	7.7		6.8	

t evaluated.
ceeds Massachusetts and Federal 8-hour standard of 9 ppm.

Basis of Air Quality Assessment
Use of Volume-9 Analysis and More Recent Traffic Data

In the comments on the Draft EIR, several reviewers noted that the air quality analysis used in the Draft EIR relied on obsolete traffic forecasts from the environmental assessments related to the North Area Artery project and the Chelsea-Water Streets Connector.

The relationship of these two reports with the concentration levels noted in them and the Volume 9 analysis used in the Hoosac Pier environmental assessment to calculate critical intersection impacts was not clearly articulated in the Hoosac Pier Draft EIR. The following is an attempt to clarify the process used to evaluate the impacts from Hoosac Pier.

1) The Draft EIR on Hoosac Pier relied primarily upon the material prepared for the North Area Artery project, not the Chelsea-Water Streets Connector analysis. The North Area Artery data were more recent, and included much higher traffic volumes emanating from the waterfront area than did the older Chelsea-Water study. Table 11 on page 56 of the Draft EIR and on page 61 of the Final EIR is based on North Area Artery data supplemented by the Volume 9 analysis which was calculated specifically for the Hoosac Pier assessment.

   The Chelsea-Water data appearing in Appendix C-2 were included for comparative purposes only.

2) There exists more recent traffic data than that used in the North Area Artery project assessment, namely the data generated in the environmental review of the Third Harbor Crossing. These were used in two ways in the Draft EIR. First, they are the basis of the traffic analysis found in Appendix B and in the text. Second, these recent data were also used in performing the Volume 9 air quality analysis.

3) The Volume 9 analysis was carried out only for the critical intersection at Chelsea/Joiner Street in the event of a No-Build on the North Area Artery Project. The analysis was performed at only one intersection because it was determined that this was "the only point within the study area that would be expected to experience significant degradation of traffic service generated by the Hoosac Pier development". (North Area Artery DEIR, page 48) As

such, a maximum degradation of air quality resulting from Hoosac development was expected at that one intersection. The Chelsea/Joiner Street intersection disappears in the event of construction of the North Area Artery Project.

The dispersion analysis which included the line source emission rates and intersection capacity components, showed that the 1 hour CO level at the intersection of Chelsea/Joiner was 7.8 ppm. To estimate the 8 hour CO level, the 7.8 was converted by a 0.65 factor to 5.1 ppm.

Since the impacts from the Hoosac Build case were substantially below the 8-hour CO standard, it was unnecessary to perform a No-Build analysis that removed the Hoosac traffic, because such an analysis would show an 8 hour CO level below 5.1 ppm or well below the 8-hour CO standard. If the Volume 9 analysis had shown a 1-hour or 8-hour CO concentration near or exceeding the standards, a Volume 9 analysis for the No-Build alternative would have been performed for the Chelsea/Joiner Streets intersection.

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COMMENTS AND RESPONSES

APPENDIX D

Appendix D

Comments by:

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

:OASTAL ZONE
MANAGEMENT

MEMORANDUM

TO: MEPA UNIT
FROM: RICHARD DELANEY RD.
DATE: NOVEMBER 23, 1982
SUBJ: HOOSAC PIER DEIR

CZM offers the following comments regarding the above document for considera-
n. As was stated in prior communication from this office (Memorandum to MEPA
t from Richard F. Delaney, Director April 28, 1982) the redevelopment scheme
Hoosac Pier is deserving of our support provided that the final design components
satisfactorily resolved.

Federal Consistency Review

This office will be reviewing any "land swap" between the National Park
vice and Massport for federal consistency. The acquisition or disposal of real
perty by the National Park Service is a so-called "listed" federal activity as
ined in 301 CMR (1)(d). Therefore the National Park Service must file a
sistency determination with this office stating that the action is consistent with
Massachusetts Coastal Zone Management plan.

The National Park Service will be required to submit Massport's final plan
the re-use of Hoosac Pier with their consistency determination. The following
ues will be raised in the course of our review.

Filling

It appears from the DEIR that no new filling will be undertaken during
nstruction. CZM supports this change from the original concept which proposed the
lling of 4000 c.y. of material to secure the tiebacks for the bulkhead. If at some
ture time, filling was again proposed, we would expect to be notified of this change
d will comment on it.

Public Access Provisions

The DEIR does not adequately outline the full range of public access
ovisions for the site. Judging from the comments at the briefing session held
Massport on November 3, 1982, providing public access to the water's edge continues
be a major concern of local, state, and federal agencies. There appeared to be

a general consensus among the participants that alternative access provisions were not thoroughly investigated and documented, but rather one configuration was adopted and simply justified in the DEIR. This is not consistent with the scope issued by the Secretary of Environmental Affairs and certainly is not reflective of CZM comments on the Hoosac Pier ENF. We previously stated to MEPA:

> "While we recognize the uncertainties which may accompany public access provisions we feel that a walkway buffered by trees and shrubs for example would surely screen any activities associated with a public walkway. We also recognize the need to provide adequate security in any development scheme. In some instances by limiting the route, type, or hours of use of an accessway, public access may be provided consistent with public safety concerns and investor confidence. We, therefore, think it particularly appropriate for Massport to consider a <u>variety</u> of public access plans as part of this proposal."

The FEIR should correct the deficiencies in the DEIR by clearly documenting alternative public acccess plans, assessing the impact of each. Again, I reiterate our statement that adequate security can be maintained while providing for pedestrian access along the perimeter of the site. It is hard to imagine why a security guard cannot provide the necessary protection on the site. It is understandable that future tenants may be unfamiliar with the area and may have substantial security concerns. However, common sense dictates that less break-ins and vandalism would be expected to occur when there is continous pedestrian traffic and visible security personnel. One would expect problems to occur at night when there is no traffic and no visible security presence; when the public would and should not be able to use a public walkway or observation deck anyway.

The present design of this project certainly sets the parameters for future public use of the area. The provision of minimal public access will severely limit use when the area becomes more popular. Furthermore, it must be pointed out that minimal provisions for public access on this site appears to be a departure from precedents set by the National Park Service and the Boston Redevelopment Authority in their respective developments in the Charlestown Navy Yard. Both projects were designed to maximize public use and views of the harbor. Rather than reverse this precedent, Hoosac Pier should be consistent with the two projects which have reoriented interest in and attraction to Charlestown's Waterfront.

An additional concern was raised regarding the owner or leasee's liability with regard to the potential for legal actions resulting from potential injuries if public access was permitted around the perimeter of the site. M.G.L. Chapter 21 s. 17C provides that an owner allowing the public access to land for recreational purposes without charging a fee will only be liable for injuries or damages resulting from willful, wanton, or reckless conduct by the owner. Massport may want to consider retaining management responsibilities along the pier apron in a manner similar to their efforts at Commonwealth Pier in an attempt to alleviate the developer's liability concerns.

<u>Traffic</u>

The DEIR makes no definative commitment to instituting mitigating measures to alleviate traffic congestion in the area. Rather than stating that mitigating measures such as instituting shuttle bus service, encouraging carpooling, and supporting the MBTA pass program are worth exploring, the FEIR should identify

what actions will be taken to lessen automobile use in the area and when. How will carpooling be encouraged? When will shuttle busses be run and from what location? How many employees can be expected to use shuttle busses? Will the shuttle busses run from North Station only or will they pick up at the Blue Line, Orange Line and Red Line also? Is flex-time an option to alleviate congestion or are the peak times long enough to render this option unworkable? Massport may want to consider assessing if a viable water-based transportation system would alleviate traffic congestion in and around the project site.

MO/sla

Response to: RICHARD DELANEY
Coastal Zone Management

Filling - Federal Consistency Review

If fill is required, the project will comply with the CZM consistency policies.

Public Access

The public access component of the DEIR has been changed to reflect concerns received during the comment period. The program now is consistent with that of the National Park Service and Boston Redevelopment Authority in the Charlestown Navy Yard. See the discussion of public access on page 73.

Traffic

Carpooling will be encouraged through the provision of preferential parking spaces for carpool vehicles.

The developer is negotiating an agreement with the operator of the Navy Yard shuttle bus. Under the terms of the Agreement, the shuttle would carry employees to Hoosac Pier from the financial district and Haymarket and back, during morning and afternoon rush hours.

The use of flex-time depends upon the tenants in the building. The developer cannot make a commitment on behalf of the tenants, but can only state at this time that tenants will be encouraged to use flex-time where possible to alleviate the peak hour traffic problem.

The Authority has been assessing the financial feasibility of a water based transportation system in conjunction with two other properties on the Harbor: Commonwealth Pier and Bird Island Flats. While the water transportation system would remove some private vehicles from congested streets in the CBD, the tunnel, and at intersections near the CBD, such as City Square, the system fails from a financial feasibility standpoint at present. The Authority will continue working with the City, the State and any appropriate federal funding sources to change the bottom line on such a system so that waterfront sites may be served by water taxi or harbor ferry. There is little likelihood that a water-based system will be in place at the time that the Hoosac Pier development is completed, but the development plan could accommodate such a system when it is in place.

The Commonwealth of Massachusetts
Department of Environmental Quality Engineering
Metropolitan Boston - Northeast Region
323 New Boston Street, Woburn, MA 01801

ANTHONY D CORTESE, Sc.D.
Commissioner
727-5194

MEMORANDUM

TO: Thomas Galvin, Massport

FROM: Michael J. Maher, Acting Section Chief for HGB

DATE: November 24, 1982

SUBJECT: Draft EIR Hoosac Pier, Charlestown, MA

DEQE recently received a copy of the DRAFT EIR for the proposed redevelopment of Hoosac Pier. Although the scope for the EIR as presented in the Secretary's certificate did not include an air analysis requirement, Massport has included this analysis herein. Although a few problems exist which should be addressed in the final, DEQE was pleased to see the extra effort on the part of Massport. Indeed, the general area to be impacted, City Square, has long been identified as having air quality problems related to high levels of carbon monoxide emissions. This extra effort helps to allay the publics' fear, that additional problems will not result from the additional traffic to be generated by the proposed project.

In light of the problems mentioned above, DEQE would like to present the following comments which it feels should be addressed within the final document.

Traffic

1. It is not clear in reading the report, what the source of the traffic data was. As indicated on page 3-7, the study used 1985 traffic information from the Third Harbor Tunnel EIS, while on page B-11, Figure B-3 1985 P.M. Peak Hour Intersection Volumes with and without Hoosac Traffic it identifies the source of data as the 1980 North Artery Area Traffic Study. A clarification as to which data was actually used should be further stated in the report.

2. DEQE questions the use of a modal split that is representative of a perspective tenant's current public transit use (page B-1). The availability of public transportation from one area to another can vary considerably in this case, downtown Boston versus Charlestown. Do these two areas have the same public transit availability to support this assumption? This should be discussed further in the report.

Air Quality Analysis

1. On pages 52-53, 56 and Appendix B, reference to the use of two studies in determining the air quality impacts; the Final Environmental Impact Statement - U.S. Route I-93/U.S. Route 1; June 13, 1979. These studies have seriously outdated traffic forecasts which in turn, affects their air quality results. As pointed out on page B-7 of the report, there are more recent traffic data available. The more recent traffic data should have been utilized in performing the air impact analysis.

2. DEQE attended several meetings with Massport at their request, to discuss the content of the air impact analysis to be performed for this project. It was DEQE's suggestion that Massport include in the analysis only those roadways and intersections that would be impacted by this project as a determination of the "worst case" condition. Further, it was suggested that they utilize the EPA Volume 9 Guidance Document in performing the analysis. The years to be analyzed were to include the existing year no build case and the design year for the no build and build cases. An analysis of this nature would indicate to the reviewer the positive or negative impacts if any, directly related to the project. On page 53 mention is made of Volume 9 in the context of a particular sentence but no mention can be found elsewhere in the report. It appears that the air quality impacts are reflective of the older reports mentioned above and not a product of the Volume 9 analysis as intended.

DEQE Regulations

Massport should be aware of the following DEQE regulations as they relate to different aspects of this project.

310 CMR:

7.09 Dust, Odor, Construction and Demolition
7.10 (2) Noise (related to construction and demolition equipment)
7.15, 7.09(2)(5) Asbestos and its removal

C- Samuel Mygatt, MEPA
C- Anne Meyers, Massport

M/HOB/dep

Response to: MICHAEL J. MAHER
DEQE - Northeast Region

Traffic

Both Third Harbor Crossing data and that from North Area Artery environmental assessment studies were used in preparing the evaluation of traffic impacts. See the Traffic Appendix for a detailed description of data sources which should clarify the DEIR presentation.

The modal split used in the traffic impact section of the DEIR to estimate trip generation from the Hoosac Pier development has been altered to reflect the lower use of public transit in Charlestown. The FEIR Appendix shows public transit at both 20%, 30% and 40% so that a range of trip generation figures showing best and worst cases can be demonstrated. It is expected that the actual public transit use at Hoosac will fall within this range. If the accepted peak hour and implementation factor is used which includes 9-10% transit, the P.M. peak hour traffic will approximate 180 vehicles. This is based on 1.2 vehicles exits per thousand square feet in the peak hour.

Air Quality Analysis

1. The analysis used in the DEIR relied heavily upon the environmental assessment in the North Area Artery Project. This project assumed a level of waterfront traffic higher than the estimates in the Chelsea-Water Streets Connector studies. More recent traffic data was used especially in the Volume 9 calculation for the critical intersection at Chelsea and Joiner Streets in the event of a no-build of the North Area Artery. The Volume 9 analysis was based on traffic flows cited in Appendix B for which the data are derived from the EIR for the Third Harbor Crossing.

2. The use of the Volume 9 calculation in the DEIR was not clearly stated. The text has been revised and Appendix C-3 has been added to the FEIR to provide clarification.

Only one Volume 9 assessment was performed for the following reason. The Volume 9 analysis at the Chelsea-Joiner intersection under build conditions was substantially under both 1-hour CO and 8-hour CO standards. The concentration under the No-Build conditions would have been even lower since the Hoosac traffic component would be removed. If the Build conditions had been near or in excess of the standards, a second calculation would have been performed to highlight the differential between the Build and No-Build conditions. In this case, however, the No-Build assessments would not have provided much assistance because the concentrations under the Build condition are far enough below the standards to render a comparison unnecessary.

City of Boston
[T]he Environment
Department

[Bos]ton City Hall/Room 813
[Bosto]n, Massachusetts 02201
[617]/725-4416 or 725-3850

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NOV 24 1982

OFFICE OF THE SECRETARY
OF ENVIRONMENTAL AFFAIRS

November 22, 1982

Secretary John Bewick
Executive Office of Environmental
Affairs
MEPA Unit - 20th Floor
100 Cambridge Street
Boston, MA 02202

RE: EOEA #4381 - HOOSAC PIER

Dear Secretary Bewick:

Please consider the following as our comments on the Draft EIR for Hoosac Pier:

1. Water Quality

a. More detailed information is needed on the abrasive blasting techniques. It should indicate use of the Best Available Control Technology for shrouding and use of floating platforms with enclosed sides which allow for the retention of some of the blasted residue. Disposal of the material left on the float could then be offsite rather than in the waters of Boston Harbor. This would also afford some greater protection to the Marina, the National Park Property, residents and visitors to the area.

b. The draft EIR makes no mention of the relocation of the Joiner Street outfall. This project was originally reviewed back in 1978 and I don't believe it has been resolved and/or completed. Some indication the Massport officials and the Boston Water and Sewer Commission are discussing the contruction and/or relocation of this outfall should be referenced in the final EIR.

2. Public Access

a. The Commission sees no reason why the public access should not be extended and required around the entire face of the pier. This issue of total access to the waterfront is the same in all neighborhoods of the City and the only acceptions have been made in maritime dependent uses. After the process we have just gone through at Commonwealth Pier, I am surprised MPA has not realized the importance of this

Air Pollution Control, Boston Art, Back Bay Architectural, Beacon Hill Architectural, Boston Landmarks and the Conservation Commissions

Secretary Bewick
November 24, 1982
Page 2

b. A concern for public safety should be addressed by Massport in a requirement to build ladders to offset the straight bulkhead which offers no method of allowing people to get back on land if they fall in the water.

c. 'As a mitigation measure for taking a maritime facility out of its appropriate use should be a floating dock to provide additional public access from the water and allow for some maritime use by recreational boaters.

Sincerely,

Lorraine M Downey

Lorraine M. Downey
Executive Secretary
Boston Conservation Commission

LMD/sef

Response to: LORRAINE DOWNEY
Environmental Department - Conservation Commission
City of Boston

Water Quality

The Authority is committed to conducting the blasting required to prepare the steel bulkhead surfaces in an enclosure. Design alternatives for the enclosure are currently being examined, by Massport's bulkhead design consultants.

Public Access

The public access component of the DEIR has been changed to reflect concerns raised during the comment period. See the discussion of new public access on page 73.

Public Safety

The bulkhead engineers are designing spikes similar to the spikes on telephone poles, which will be attached to the new fender piles. These spikes will provide an escape mechanism for a person who has accidentally fallen into the water, but will not encourage swimming or boat traffic.

Removal of Maritime Facility

The proposed development is not an action that takes a maritime facility out of its appropriate use. The marina is a maritime use in existence on the property which will not be diminished by this action. Further, the development program proposed is consistent with a water-based transportation system should such a system become operative in the future. The original maritime use of the facility is no longer appropriate given current cargo handling and shipping technology, and ships stopped calling at Hoosac Pier over a decade ago. See section 2.1.1 of this FEIR for documentation of the decline of cargo volume at Hoosac. That decline, and not the current development, was the catalyst for the change from maritime use.

The Authority is exploring the feasibility of a floating dock structure to accommodate dinghies for temporary landings. See the architect's rendering of this facility on page 77.

Boston Redevelopment Authority

Robert J. Ryan, Director

November 22, 1982

Secretary John Bewick
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

ATTENTION MEPA UNIT

Dear Secretary Bewick:

Re: EOEA# 4381: Hoosac Pier Draft Environmental Impact Report
Charlestown, Boston - October 1982

Pursuant to regulations implementing M.G.L. Chapter 30, Sections 62-62H, the Boston Redevelopment Authority has reviewed the above-referenced DEIR and submits the following comments.

There are several areas in the Hoosac Pier DEIR which we feel have not been adequately evaluated and where certain topics specified in the MEPA scope have not been addressed.

Public Areas

We do no feel that public access at the site, as proposed, has maximized the potential for pedestrian movement around the perimeter of the Pier. The proponent has stated that pedestrians around the office building would be distracting to workers. However, there are options that can be explored to avoid the problem. These include constructing the walkway lower than the office windows, and using reflective glass that would not allow persons to see into the building and distract or watch workers. The proponent also has stated that security would be a problem if the SE and SW edges of the Pier around the office building were open to the public. However, no evidence that vandalism or security are a problem in this Pier area has been presented. In addition, options for a gate and security system for evening hours exist and could be implemented by the developer or tenant. Access to this section of the Pier would offer the public views of the Harbor and City that are not seen from the NE perimeter. As we have indicated in discussions with Massport prior to issuance of the DEIR, we feel that it is very important that this access is available for public use.

MS1111982

City Hall Square
oston, Massachusetts 02201
17) 722-4300

Traffic/Transportation

In terms of the traffic analysis, several of the assumptions used in calculations are inaccurate or inappropriate for this site. The existing traffic patterns are placed on an incorrect base which shows a future and not the current street pattern. This should be corrected. The modal split was based on the downtown Boston situation. However, the project site does not have the good public transit access that the CBD has, and, therefore, auto usage could be considerably higher.

The auto occupancy of 1.76 used for the CBD also may be high for the Hoosac Pier site. In addition, the number of office employees on which these calculations are based does not appear to be consistent with what is considered the average employee/square footage ratio. With 450 employees for the 150,000 square feet of office space, the office density is 3 employees/1,000 square feet, a rather low number. The standard number, used by the BRA, is 5 employees/1,000 square feet. The factors used that led to this low ratio should be explained.

The geographical distribution of residences of potential Hoosac Pier employees also is questionable, since it does not include any Charlestown residents who might drive to work. It cannot be assumed that all Charlestown residents would walk or take public transit, particularly since the site is not well accessed by transit.

In terms of traffic generated by the restaurant, there is no indication of restaurant capacity on which to base vehicular and pedestrians projections.

The following numerical discrepancies also make the accuracy of the traffic analysis and conclusions presented rather questionable. According to Figure 20, the increase in traffic on Joiner Street entering the Chelsea/Joiner Streets intersection from the project is 27%, not 7%. Also 43% (not 4%) of this traffic will make a right turn onto Chelsea Street, with 57% (not 27%) of the total Joiner Street traffic going straight or turning left. These discrepancies need to be corrected.

Air Quality

The data presented on the air quality analysis are incomplete and also show discrepancies which may have led to inaccurate conclusions. While the text (p. 53) states that three conditions and four receptors were examined, Table 11 (p. 56) includes only two conditions and three receptors. No data are presented for the missing condition (construction of Chelsea/Water Streets connector only) and receptor (Water and Joiner Streets), and thus, there is no substantiation for the conclusions. Moreover, no data are given for Chelsea/Joiner Streets for the Northern Artery Project condition. For the existing condition, most years are merely indicated by "will decrease over time", with nc substantiation. For 1987 existing roadway at City Square, Table 11 gives 16 ppm, the text 17 ppm. These discrepancies should be corrected.

The effect at Chelsea/Joiner Streets if a traffic signal is not located there also should be determined. The proponent should indicate whether there is any commitment by the City to place a signal at this location.

MS1111982

Water Quality

Although the placement of fill to support a new bulkhead has been eliminated from the project, the placement of riprap along the raker pile sections is a part of the project and its effects on water quality should be evaluated.

It should be noted that a CZM Consistency Finding still would be required, regardless of whether filling were included or not. DEQE review still may be required since work will take place in the water, including repair of bulkheads and placement of riprap.

The discussion of impacts on water quality does not actually discuss what will be the effect of the emission of rust, grit, and scale on the water column itself or on aquatic biological resources.

It should also be noted that there is a major City of Boston drain located at the end of Joiner Street discharging combined sewer overflows into the waters adjacent to the project site. The Boston Sewer and Water Commission is currently working on resolving this problem and we anticipate that they will be responding to MEPA in terms of any relationship it may have to development of Hoosac Pier.

Noise

The noise discussion does not evaluate the impact of construction noise (all phases) on the adjacent marina and National Park.

Construction

It is unclear whether the immediate repair of the bulkhead described on pg. 11 is the same as the bulkhead construction described on pg. 39. The two descriptions include different specific items although the costs appear to be the same. The extent of bulkhead work should be clarified.

Precautions that will be taken to prevent demolition debris from falling into the Harbor should be presented. Similarly, precautions that will be taken to prevent pollution of the Harbor waters from runoff from the storage of construction material on the pier and methods of mitigating this problem should be identified.

Also, provisions for the parking of construction workers' cars should be made.

A specific construction schedule for bulkhead work should be developed and coordinated with the Commander of the U.S.S. Constitution and the operator of the Constitution Marina. This schedule should be included in the Final EIR. Lack of this coordination could be detrimental to annual maintenance of the Constitution and to marina activities.

It should be noted that the commitment to suspend construction should any items of historic value be discovered is commendable.

MS1111982

Alternatives

An alternative which emphasizes maritime use of the pier has not be included, as requested by the MEPA scope, nor is there any explanation why this alternative was dropped from consideration.

We trust that the above-mentioned clarifications and corrections will be included in the Final EIR, as well as the additional analyses that we have requested.

Sincerely,

Robert J. Ryan
Director

MS1111982

Response to: ROBERT J. RYAN
Boston Redevelopment Authority

Public Access

The public access component of the DEIR has been changed to reflect concerns raised during the comment period. See the new public access description on page 73. It describes options including landscaping and use of reflective glass to increase public use of the facility.

Traffic

Figure 5 showing existing Traffic Patterns on page 22 in the DEIR incorrectly showed the new Chelsea Water Connector right-of-way. That map has been replaced. The modal split of 47%/53% in the DEIR has been adjusted to indicate lower public transit usage by employees. The sensitivity analysis graphically demonstrated in the Traffic Appendix shows a 20%, 30% and 40% public transit usage. Although Hoosac Pier is not in the CBD, the shuttle bus will encourage public transit usage and the modal split is expected to be about 30% transit.

The auto occupancy rate of 1.76 has been supplemented with trip generation estimates based on a 1.4 auto occupancy rate. This rate and a revised discussion of building square footage and employee density appears in the traffic section of the FEIR on page 53. A mode split with 9-10% public transit transit use is assumed in this discussion.

Although the Hoosac Pier site is not ideally served by public transit, Charlestown residents could use busses running on Bunker Hill Street and Main Street to reach Hoosac Pier. Both of these busses stop in City Square which is only 280 feet from Hoosac Pier. Those Charlestown residents driving to the site would not add significant volumes to the local street system.

The 8,000 square foot restaurant and lounge will seat approximately 275 people. This will not generate significant volumes of traffic.

In Figure 20 in the DEIR, the percentages for increases in traffic on Joiner Street entering the intersection of Chelsea were based on the total volume of traffic in the intersection or individual street. For example the 140 cars added to the intersection is 7% of the total 1944 cars in the intersection. Similarly 31 cars from Hoosac Pier making a right turn from Joiner to Chelsea Street represent 4% of all the cars on Joiner Street. The DEIR incorrectly stated that 27% of the Joiner Street traffic generated by the development would go across Chelsea Street or turn left onto Chelsea Street. This number should be 109/660 or 17%. These numbers have all been revised in the FEIR. See page 54 in the traffic impact section as well as the derivation of percentages in Appendix B.

Air Quality

Although the data for all receptor points are not complete, there are sufficient data points to justify the conclusions reached in the text. At the most sensitive receptor point the Chelsea/Joiner intersection in the case of the No Build on the Northern Artery Project a Volume 9 analysis was performed. That is discussed in Appendix C-3.

The calculations were based on two, not three conditions, since the Chelsea-Water Streets Connector is assumed in the discussion of existing conditions. The new roadway is now under construction. That confusion has been cleared up in the text of the Final EIR. Furthermore, the data were compiled for three receptor points, and for a fourth where possible.

The Chelsea-Joiner intersection disappears with the construction of the North Area Artery Project. Therefore no data are given for this intersection under the North Artery project condition.

Where the concentration levels are substantially below the air quality standards, it did not seem necessary to spell that out, particularly since the total emissions, will reduce over time, and they are directly related to concentration levels. See Appendix C-1.

The text has been corrected to read 16 ppm on page 62.

No effort was made to calculate the CO levels at Chelsea/Joiner without a traffic signal, because the intersection will probably fail without a traffic signal, regardless of the 8-hour CO concentration. Traffic mobility, not CO levels, is the determining factor.

The Authority is coordinating the process to install a traffic signal with the City of Boston Traffic and Parking Department.

Noise

The FEIR specifically refers to the impact of construction noise on the Constituion Marina and the National Park. See page 67.

Construction

The DEIR text concerning bulkhead repairs has been revised to clarify those repairs originally recommended during the feasibility study versus those repairs which are part of the actual project when the job is bid. The bulkhead construction itemized in Section 4.1 represents the work to be performed.

The schedule for construction of the bulkhead has been included in the FEIR in Section 4.1. Project staff have met with the Commander of the U.S.S. Constitution and the marina operators to review the construction work and the schedule.

Maritime Alternative

The DEIR on page 19 outlines three alternatives, A, B, and C, to be discussed. It specifically notes that Alternative D mentioned in the MEPA scope had been deleted as a separate item because maritime activity in the form of recreational boating is part of the development plan. MEPA approved of this deletion as noted in the DEIR text.

Water Quality

Construction activities related to the bulkhead are exclusively rehabilitative in nature. No new filling nor structures will result from the bulkhead repair.

The resulting emissions to the water column will not significantly impact water quality. The emissions will be temporary in nature and are not highly reactive nor perceived to be readily accummulated in food chains. In large part the emission will consist of spent abrasive materials which are wholly inert. The iron-oxide scale is a naturally occurring substance which currently has a direct exposure to the water column. Other scale on the steel surface includes barnicles and plant materials.

It is not expected that the emission from the blasting will have a perceptible impact on ambient water quality. However, the contractor will be required to collect and remove floatable materials should they exist on surface waters.

Boston Water and Sewer Commission

10 Post Office Square
Boston, Massachusetts 02109
617-426-6046

RECEIVED
NOV 30 1982
OFFICE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

November 30, 1982

Mr. Samuel Mygatt, Director
MEPA Unit - 20th floor
100 Cambridge Street
Boston, MA 02202

Re: EOEA #4381 - Hoosac Pier

Dear Mr. Mygatt:

The Boston Water and Sewer Commission has no objections to the Massport Hoosac Pier development as proposed.

I would like to, however, make several comments in regard to the project. First, the Commission is evaluating options for the discharge of stormwaters from a separate storm drain system at Joiner Street. The most likely discharge site for the drain is the Constitution Marina area adjacent to the Hoosac Pier, although alternatives are being considered.

Secondly, sewer system plans show two abandoned combined sewer outfall pipes under the Hoosac Pier. The Commission would like to determine the exact condition of those pipes. Masport should determine if there is flow in the pipes, and should include in development plans means of closing off the pipes.

Sincerely,

Charles Button, P.E.
Chief Engineer

CB/DS/mo

Response to: CHARLES BUTTON
Boston Water and Sewer Commission

CSO Flows

The Authority looks forward to continued discussions with the Boston Water and Sewer Commission regarding outfalls adjacent to Hoosac Pier. As in the past, the Authority continues to support the Commission's efforts to correct existing problems at Hoosac Pier.

It is the Authority's understanding that flows are discharged from the Commission's outfalls existing beneath Hoosac Pier. To the extent that it is feasible, the Authority will tailor construction activities to reflect any effort on the part of the Commission to close off these pipes.

METROPOLITAN AREA
PLANNING COUNCIL
110 TREMONT ST.
BOSTON, MA 02108
Tel. (617) 451-2770

November 19, 1982

The Honorable John A. Bewick
Secretary of Environmental Affairs
100 Cambridge Street
Boston, MA
Attention: MEPA Unit

RE: Proposed Redevelopment of Hoosac Pier, Charlestown
(MAPC # EIR 83-2, Received October 22, 1982) EOEA #4381

Dear Secretary Bewick:

The Metropolitan Area Planning Council has reviewed the Draft Environmental Impact Report referenced above. The project consists of repairing the Hoosac Pier structure in Boston harbor near the U.S.S. Constitution and the Charlestown Navy Yard National Park site, as well as demolishing the existing warehouse structure and replacing it with an office building with adjacent parking and a restaurant, also with parking.

There are a number of questions that require further information before final determinations are made on this project. These include items on traffic, air quality, hazardous wastes, and historic resources.

The traffic impact analysis was based on a variety of old reports and a tentative discussion with a possible tenant in the proposed development. The number of trips to be generated by the office development, in particular, is questionable. The rule-of-the-thumb figures provided by the National Transportation Research Board (in "Quick Response Urban Travel Estimation Techniques and Transferrable Parameters, User's Guide" Table I) predict a much higher number of trips to be generated by such a facility. Also, the EIR assumes that the modal split will be the same for the workers as in the current downtown location of the proposed tenant--47% by transit and 53% by car. The fact that there is no convenient public transportation available in the City Square area is not mentioned, and the suggestion that a bus service could be arranged is not documented or substantiated. It is quite possible, therefore, that there would be more auto trips generated than the 140 assumed.

While existing traffic patterns appear to leave room to accommodate additional traffic, the impacts cannot be adequately determined without more accurate numbers. Since the numbers suggested in the "Quick Response" manual are considerably higher--in the range of 900 to 1,000 one-way trips generated--the numbers could be significantly different even if the modal split--which is also subject to reconsideration--were accurate. If the estimates are based on the number of employees expected (and that number is derived from a prospective tenant which has 450 employees), the discrepancies in figures should be explained. Will the business be using more square footage per employee than these standard measures imply? How firm is the expectation that this particular tenant will occupy the space? With a bit more documentation, these uncertainties can be cleared up.

The information provided, however, is inadequate. Figure 19, which was used to show the probable traffic flows into and out of the area, is very poorly drawn and laid out, and it is necessary to read the appendices and rework the figure before it is possible to understand where the depicted numbers come from. In addition, the EIR is written as though all current traffic patterns will remain the same, even though changes are not only planned, but under construction. Also, the area is currently very confusing for both drivers and pedestrians, and no suggestions are made to improve the accessibility of the site in general. On another note, the current traffic layout is not very conducive to pedestrian traffic. The new pier park area will be unlikely to be much of a resource for local Charlestown residents without some improvements to increase pedestrian safety.

The historical significance of the site is another concern. While a helpful overlay map is provided, it begins with 1775, several years after an old fort was removed from the pier site. A visit to the pier revealed that there are two archaeological digs underway within feet of the Hoosac site. Given the age of the area and its role in American history, a more thorough documentation of the possible significance of the site should be provided. If the site specifically was not included in the list of sites for further exploration prepared in relation to the Central Artery, this information should be provided. The EIR states that the project would not "disturb" any historic resources because it would merely bury them more deeply, not dig them up. This is a questionable approach to historic resources.

The third area of concern is air quality. Again, the EIR was prepared using a variety of old documents, with the assumption that the number of vehicles added by the project will not contribute significantly to the ambient conditions. This is clearly contingent upon clearer explanation of these numbers. The data and calculations provided are not specific to the site. A related concern is the handling of the decaying asbestos panels which will have to be removed from the pier. There is no mention of compliance with DEQE regulations for handling asbestos, nor any documentation of the availability of proper disposal facilities.

The project is one of interest, given the possible irreversible disintegration of the pier as a resource if repair is not undertaken as quickly as possible, and given the ongoing improvements in the area being

undertaken by the U.S. Parks Service as well as the spectacular views available from the site. But there is a lack of information in the EIR, such as the type of restaurant, and the expectations about the tenancy of the office building, which leave a number of the conclusions in the report open to question. With sufficient information on these items, the project could be a fine contribution to the Charlestown area.

Sincerely,

Jonathan G. Truslow
Executive Director

JGT:sjf
cc: Eugenie Beal, MAPC Representative
Alf Howard, BRA
Heidi O'Brien, DEQE
Judith Wagner, MAPC
Thomas M. Galvin, Massport
Norman Faramelli, Massport
Anne R. Meyers, Massport

Rec'd
11/18/82

mapc

METROPOLITAN AREA
PLANNING COUNCIL
110 TREMONT ST.
BOSTON, MA 02108
Tel. (617) 451-2770

DATE: October 22, 1982

I.D. #: EIR-83-2

TO: Eugenie Beal

COMMUNITY: Boston

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: Hoosac Pier

THE COUNCIL HAS ONLY 15 CALENDAR DAYS TO FILE COMMENTS WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY November 16, 1982

- [ ] ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS
- [ ] MERITS FURTHER ENVIRONMENTAL STUDY
- [x] NEED MORE INFORMATION

EXPLANATORY COMMENTS: How does a ratio of 2.10 parking spaces/1000 square feet of office space do anything but encourage commuting by private auto, since a more common ratio is [illegible] 120-130 spaces should be enough and the land area saved could be a seaside park, part of the surrounding area which should be accessible to the public. Ladders for access from water to land should be provided. Piles should be pulled, not cut off.

[illegible]

SIGNATURE: Eugenie Beal

DATE: 11-16-82

ring demolition and abrasive blasting booms should be used to contain ny debris. Shrouding, floating platforms and pre-dry blasting high-ressure water blast are essential.

s filling contemplated?

ffects on the National Park Service properties and the nearby marina hould be spelled out in detail.

Response to: JONATHAN G. TRUSLOW
Metropolitan Area Planning Council

Traffic

The traffic impact analysis used reports pertaining directly to the City Square area, namely the Chelsea-Water Connector and the North Area Artery studies. Although these reports are dated, more recent data from CTPS Third Harbor Crossing forecasts were also included in the analysis. See Appendix B for a detailed discussion of data sources. The DEIR section on traffic impacts has been revised to reflect a higher number for trip generation based on a different modal split, and higher employee per square foot density.

Figure 19 in the DEIR has been reworked and appears as Figure 23. The DEIR was written recognizing the new alignment that will exist upon completion of the Chelsea-Water Connector Project and in view of the right of way changes discussed in the context of the North Area Artery project. These are the only possible changes with which the Authority is familiar. The Authority has been closely involved with the City and the Massachusetts Department of Public Works in discussions of these two projects and their relation to its facilities.

Improved signage has been a component of the discussions for both the Chelsea-Water and North Area Artery Projects. The National Park Service has been particularly concerned about providing clearly marked routes for tourists visiting the Navy Yard. With these signs in place, Hoosac Pier tenants can direct their own visitors to follow the signs for National Park Service visitors. Clear directions are a necessary marketing tool for the developer. Maps to the site prepared by the developer and/or tenants will emphasize use of major arteries and not local Charlestown streets.

Admittedly the current traffic layout is not very conducive to encouraging pedestrian traffic from Charlestown to the waterfront. Even when the Chelsea-Water Street Connector is completed, the major pedestrian crossing will occur at Gate 4, a considerable distance from Hoosac Pier. The North Area Artery Project, if it is built, however, will improve local access to the Waterfront near City Square thereby facilitating pedestrian access to Hoosac. The traffic signal proposed for the Chelsea-Joiner intersection will make it safer for local pedestrians seeking to cross Chelsea Street to reach Hoosac Pier until such time as the North Area Artery is built.

Historical Significance

The Hoosac Pier site is not one of the twenty-one sites recommended by the Harvard Institute of Conservation Archeology for eligibility for the National Register. However, the history of the site has been documented extensively in a recent report Hoosac Docks: Foreign Trade Terminal by Paul O. Weinbaum of the National Park Service. There is no mention in this work, or in the Dempsey report cited heretofore in section 2.5 of a fort on this site. Most of the Hoosac area was land filled in from the 1700's. An additional map of the Hoosac Pier environs dated 1638 has been added in this FEIR.

In as much as the project entails limited excavation in the site preparation work, there should be litttle disturbance to historic resources that might exist on the site. The DEIR comment that resources might only be buried more deeply was meant as a forthright statement of possible impacts. Reviewers are likely to be concerned about excavation, but they should also be aware that raising the site one foot could further bury any undiscovered historic resources.

The Authority's approach to historic resources is such that all construction work will stop if anything of a significant historic nature is uncovered. Further determination of the importance of these items will be made by the Massachusetts Historical Commission at the request of the project manager.

Air Quality

The air quality impacts at the critical intersection of Chelsea and Joiner were evaluated using the Volume 9 analysis that relied on most recent traffic data available.

The reviewer is referred to the earlier response to DEQE as well as to changes in the text concerning air quality and in the new Appendix C-3.

Restaurant

The restaurant will include a dining room and lounge area of approximately 8000 square feet, seating approximately 275 people.

United States Department of the Interior

NATIONAL PARK SERVICE

Boston National Historical Park
15 State Street
Boston, MA 02109

IN REPLY REFER TO

November 22, 1982

Samuel Mygatt, Director
MEPA Unit - 20th Floor
100 Cambridge Street
Boston, Massachusetts 02202

Re: EOEA #4381 - Hoosac Pier

Dear Mr. Mygatt:

This responds to your request for review of the EIR on the redevelopment of Hoosac Pier. The National Park Service supports the concept of a pier redevelopment which is low level and results in moderately intense use, and:

1. Complements the naval industrial character of the Charlestown Navy Yard unit of Boston National Historical Park;

2. Avoids or minimizes obstruction of views to and from USS CONSTITUTION and other significant features of the Navy Yard unit; and

3. Upholds the ideals of an open waterfront with public access, especially as envisioned by the Charles River Watershed Association and Metropolitan District Commission in their plans for a Charles River corridor.

The following are more specific areas of concern relating to the primary outlook described above and bearing more directly on the material presented in the EIR.

The National Park Service (NPS) supports the feasibility of a land exchange which would improve vehicular access to Hoosac Pier. The extent and details of such an exchange remain to be determined. Final placement of the restaurant driveway is not likely to be as shown in figure 3. Revised drawings showing a more probable location at the edge of NPS property should be substituted for figures 3 and 6, and elsewhere if necessary. The text should make clear that final configuration, site appearance and other details of the exchange have not been determined. The National Park Service is committed to working with Massachusetts Port Authority to develop a mutually acceptable plan.

The EIR should describe the history of Hoosac Pier and adjacent areas in greater detail. The Hoosac Tunnel Docks, which include the site of the present Hoosac Pier were the major foreign trade terminal for the port of Boston in the late nineteenth century. A recently completed report, <u>Hoosac Docks: Foreign Trade Terminal</u> has been forwarded to Massport and to the Massachusetts Historical Commission. A copy of the report is also appended to this letter. The National Park Service is preparing a National Register nomination for at least a portion of the area described in this report.

The existing railroad tracks should remain and be shown on figure 3, the proposed site plan; and the text should make this clear. These tracks and the railroad right-of-way are significant to the Hoosac Pier story described above. In addition, the National Park Service has a long term interest in using this main line trackage for light rail line access to the Charlestown Navy Yard and adjacent areas.

The National Park Service accepts inclusion of a three story structure on a portion of the pier. The maximum height of this structure should be about 35 feet, and it should be the structure nearest the Hoosac Stores (formerly the Chocolate Factory). The larger office structure should be lower, as the proposal suggests, thus keeping visual lines to the adjacent historic areas open. Massport should commit itself to maximum heights for both proposed structures and use those figures in all future discussions.

The National Park Service believes that there may be archeological potentional on the site. Excavation of 18th century docks is currently underway directly across Water Street from Hoosac Pier. The Service will provide assistance or suggestions relating to archeology, if requested by Massport.

Views of USS CONSTITUTION have been addressed in the proposal and elsewhere in this letter; however, views from the ship are likewise important. A method of screening, or a design technique, should be found that minimizes light and heat reflections off of cars parked on the pier.

The Massport proposal includes 341 parking spaces for office personnel and restaurant patrons. This more than covers the 140 vehicles estimated in Appendix B of the EIR to be the future users of the parking lot. This estimate is based on sales of MBTA passes elsewhere in the city, and passenger vehicle use in the Boston CBD. The National Park Service has observed that Charlestown is not like the CBD. Far more park visitors and employees drive personal vehicles to Charlestown and the Navy Yard than would if their destination were the Boston CBD. Parking in Charlestown is free, there are ways to avoid most of the major traffic arteries, and current public transportation to the area does not compare to downtown. The hope is that if there is overflow parking from the pier, it will not compete with public parking in the vicinity; if it does, park visitors will undoubtedly lose out since they seldom arrive before rush hour ends.

Weekend access to the pier parking area would be of great value to the park, and is a gesture much appreciated by the Service.

The Service would like to know what plans have been made for preventing runoff containing oil and gasoline, and other chemicals, from reaching harbor waters adjacent to the pier parking lot.

The National Park Service supports the comments made at the recent briefing by the Navy regarding periodic traffic tie-ups in the area and the impact of even 140 additional vehicles on that situation. The National Park Service would like to be assured that additional traffic will be mitigated to the maximum extent possible so as not to impact visitors to Boston National Historical Park.

Finally, the Service would like to call attention to the Freedom Trail, a major Boston visitor attraction in its own right, which extends along Water Street past Hoosac Pier, to the Navy Yard and then to Bunker Hill. Pedestrians also use the area between the waterfront and Hoosac Stores to reach the Bunker Hill Pavillion. Available statistics show that as many as 800 people per day use the latter area, and that up to 500 people per day use the Freedom Trail to reach the Navy Yard. While the numbers are not great, the presence of pedestrians should be fully acknowledged. Driveways and access roads on the pier must be clearly recognizable as such so that visitors are aware that they are crossing or utilizing areas open to vehicles.

The National Park Service appreciates this opportunity to comment on the draft EIR and hopes that these comments will be of value in finalizing that document. Additional comments or information will gladly be provided. The Service looks forward to continued involvement in the detailed planning of this project.

Sincerely yours,

Hugh D. Gurney

Hugh D. Gurney
Superintendent

Enclosure 1

Response to: HUGH D. GURNEY
National Park Service

Driveway Location

Revised drawings showing the location of the driveway are included in this FEIR. While both the Authority and the National Park Service are committed to developing a land swap plan, the final details remain to be determined.

Hoosac Docks History

For a full discussion of the history of Hoosac Pier, please see section 2.5 and the citations that follow. As NPS noted, the Hoosac Docks: Foreign Trade Terminal prepared by the NPS is a comprehensive history of the area. The reader of this Hoosac Pier FEIR is referred to the National Park service document for its detailed study.

Railroad Tracks

Massport is negotiating with the B&M Railroad for the purchase of the land under the tracks. The B&M will retain an easement for use of the tracks during the night. Active use of the track during office and restaurant hours presents a safety hazard to cars and pedestrians, and affects the developers' ability to finance the project.

Restaurant Height

The three-story restaurant/office building overlooking the U.S.S. Constitution will be approximately 45 feet high, with mechanical equipment on the roof. The maximum height required for this equipment will be 14 feet.

Archeological Potential

Massport welcomes participation by the National Park Service if any items of historic value are uncovered at Hoosac Pier. The DEIR explicitly stated that all work would be halted and the Massachusetts Historical Commission notified if historic items are found.

MUH

DEPARTMENT OF THE NAVY
U.S.S. CONSTITUTION
CHARLESTOWN, MA. 02129

IN REPLY REFER TO:

CONST:HOS:ml
16475
Ser 276-82
1 November 1982

RECEIVED
NOV 4 1982
OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

From: Commanding Officer, USS CONSTITUTION
To: Director, Executive Office of Environmental Affairs, 100 Cambridge St., Boston, MA 02202

Subj: Draft EIR for Hoosac Pier, Charlestown, MA; comments on

Ref: (a) Draft Environment Impact Report for Proposed Development of Hoosac Pier, Charlestown, MA of OCT 82 (EOEA #4381)

1. Reference (a) has been reviewed as requested and the following comments are hereby submitted:

a. The removal of the existing railroad spur line which serves the Charlestown Navy Yard and thus the National Park Service (NPS) and USS CONSTITUTION has not been properly addressed. It's removal is assumed without prior consent of the NPS or U.S. Navy which have a potential use for the line.

b. The present warehouse structure on Hoosac Pier, although only one story in the storage area is essentially a two story building approximately 22 feet high. The draft EIR does not clearly indicate the proposed height of the new office building or the restaurant. Terms such as "low level", "one-story, with some two-story mezzanine areas", "low-rise", "two-story office building", and "the 65 foot building height restriction...will be observed" are used throughout the report. Pages 20 (para. 3.3), 24 (para. 3.3.2) and 64 (para. 5.0 "Height") all indicate that the visual corridors to USS CONSTITUTION will be improved. A 65 foot high building will not improve the visual corridors to the ship. In fact, only the view from a portion (East end) of the Northend playground will be improved. The view from all other areas depicted in the draft report is decreased. The full ship should be made visible from the north corner of the MDC Northend Ice Rink on Commercial Street. It is recognized that it is impossible to make the full ship visible from anywhere along the Washington Street Bridge area, although building height will have a significant impact and should be reviewed closely in order not to exceed the present height of about 22 feet.

c. Throughout the report, the impact of the project on local traffic is minimized. This is a gross understatement based on inadequate sampling and observations. Unrecorded are the bi-monthly traffic tie-ups that completely stops all traffic northbound on Water Street at Chamber Street, the three lanes of traffic westbound on Joiner and Grey Streets and the back-up of traffic on the I-93 off-ramp, etc. during evening rush hour traffic. No restaurant can exist under those conditions as patrons will not be able to reach the facility. Being caught in such traffic only needs to happen to a potential diner once and he won't come back. The same is true of office workers who will be attempting to join this maddening maelstrom of frustrated vehicles. A thorough, longer sampling and traffic flow measurements survey is desperately needed before making an assessment of negligible impact and that the installation of a traffic light at the Chelsea St./Joiner St. intersection will be a cure all. Assumptions that are completely wrong are that two-way streets remain two-way, that one-way streets remain one-way, and that drivers obey traffic laws.

CONST:HOS:ml
16475

Subj: Draft EIR for Hoosac Pier, Charlestown, MA; comments concerning

d. Environmental Impacts. (Pages 40 & 41, Para 4.1.2). The following statements are made: "In addition to the grit, dust from the rust scale on the sheetpile will be generated during the sandblasting. This may travel farther than the sandblast grit. The USS CONSTITUTION is located nearly 200 feet from the east face of the Hoosac Pier sheetpiling and is outside the area affected by the sandblast grit. ---The coating must be applied only when the water and air temperature are greater than 50°F. ---it is assumed that this work will be performed during the months of May through July."

The months of May through July for sandblasting the sheetpiling are the worst possible months for performing this work. These are the months where extensive topside and hull painting is done annually onboard USS CONSTITUTION. The presence of airborne rust dust and scale is unacceptable during those months.

H. O. SUDHOLZ

Copy to:
Superintendant, BNHP

Response to: H.O. SUDHOLZ
Commander, U.S.S. Consitution

Rail Line

The Authority is negotiating with the B&M Railroad for the purchase of the land under the tracks. The B&M will retain an easement for use of the track during specified hours. The Authority's plan for Hoosac does not assume the removal of the tracks and the drawings of the proposed development have been changed to reflect that fact.

Building Height

The two story building will be approximately 30 feet high, with mechanicals on the roof to a maximum of 14 feet. The three-story building will be approximately 45 feet high, with mechanicals on the roof.

Traffic

It is true that traffic tie-ups do sometimes stop all traffic in the project area creating major delays and extensions of the commuter peak hour. Such situations inevitably occur in any metroplitan area near the feeder routes to the CBD when a stalled vehicle, an accident, or bridge repair impairs the flow of through-traffic. Restaurant patrons arriving by car will time their visits to follow the PM peak hour traffic.

The traffic signal at Chelsea/Joiner is not expected to be a cure-all for the congestion in the area. It is designed to reduce the likelihood of traffic back-ups on Joiner Street caused by the inability of Joiner Street traffic to cross the southbound Chelsea Street traffic stream.

Schedule of Construction - Sandblast

The bulkhead construction on the east face of Hoosac Pier will not begin until August, as shown in the construction schedule in Section 4.1.

boston harbor associates
"for balanced harbor development"

P.O. Box 9042, Boston, MA 02114
Telephone (617) 426-5025

ROBERT M. CALDER, President
JOHN S. AMES, Vice President
LYDIA R. GOODHUE, Vice President
EDWIN P. TIFFANY, Treasurer
LORRAINE M. DOWNEY, Secretary

THOMAS ENNEN, Executive Director

Mr. Samuel Mygatt, Director
MEPA Unit - 20th Floor
100 Cambridge St.
Boston, Ma. 02202

18, November, 1982

RE: #4381 Hoosac Pier

Dear Sam:

I write to offer the comments of the Boston Harbor Associates regarding the proposed Hoosac Pier Project. At the outset let me say that we are generally well pleased with the plans the Port Authority has developed for this site, We would, of course, prefer that the site continue to be used for water-dependent purposes. However, in recognition of the abutting land uses and given the limited foot print of the site, we can support, under certain conditions, the proposed change.

Conditions

Public Access

The provision of continuous pedestrian access around the waters edge of th Pier is considered an essential feature of new waterfront development. In our several discussions with the project proponent, combined with a thorough reading of the draft EIR, we can discover no cause to justify a deviation from this widely held standard. The draft EIR is notably deficient in addressing this concern. The proponent is certainly aware, given its recently completed work on Commonwealth Pier, of the intensity of public interest in this regard.

We have discussed this aspect of the project with the marina operator who sees no reason why full public access should not be provided. We consider the security needs of the building on the pier to be a matter of the des design challenge rather than a cause for impairing public access.

This project differs from Commonwealth Pier, with regard to public access, in that on Comm. Pier the proponent demonstrated that the requirements for maintaining cruise ship docking facilities prevented the installation

of necessary public access safety equipment such as railings. No such requirements appear to exist at this site.

We recommend that the final EIR demonstrate substantial modification of the proponents plans with regard to public access. We are available to discuss the issue. Given the vigor with which we pursue our long-standing position in this regard, I will not further belabor the point.

Water Dependent Activities

The existing Constitution Marina provides service to both the recreational boating public and the residents of the Charlestown community . It is important to note how much the Charlestown community views the marina as their facility. The draft EIR mentions the retention of the marina. It is apparent that the marina might be expanded as part of the redevelopment. Full planning for maximum recreational boating facilities is only appropriate as not only does it help to satisfy to substantial unmet demand for such services in the harbor but also serves as an offset to the loss of Hoosac as a water dependent facility.

The proponent should be required to install ladders in the renovated bulkhead as a public safety measure. The inability of persons who might fall off boats or piers to regain solid ground, due to their inability to climb a sheer bulkhead face, can be cheaply remedied during the reconstruction of the pier.

Finally, the proponent should be required to install a float dock, probably at the shore end of the east side of Hoosac, to accomodate a public landing. This dock would not be for recreational vessels themselves but rather associated dinghys and tenders. While it is true that there will be a public dock at the Charlestown Navy Yard, these facilities should be provided at every possible location on the harbor. The cost of both this float dock and the above mentioned ladders is very small, should actually enhance the ultimate value of the development, and is an entirely appropriate mitigation measure.

Charlestown Storm Drainage

A combined sewer overflow is currently located on the west side of Hoosac Pier. Under the Charlestown sewer seperation project, started by the BRA and now the task of the Boston Water and Sewer Commission, this drain was to be relocated to a proposed new outfall discharging in the area of the existing marina office. As this project neared implementation several years ago, the marina owner raised objection, on environmental

grounds, to the proposed outfall location. The project was halted and remains an unfinished protion of the new drainage system. Work on this project should certainly, as part of the redevelopment process, be completed. Alternative alignments do exist which would quiet the marina owners objections. Massport, working with the BWSC, should bear the responsibility, to see that this project is completed as part of the overall redevelopment process.

Design Review

Design review of the architecture, materials, signage, etc. should not only be required but also involve representatives of the community, the marina and Boston Harbor Associates. The final EIR should establish a clear process for this design review.

We thank you for this opportunity to comment on this proposal and will make ourselves available for further discussions on the subject. We hope that the project proponent senses our support of the concept and our willingness to work cooperatively toward its implementation.

For the Associates,

Thomas Ennen

cc. Ann Hershfang, Vice Pres. for Policy, TBHA
Jack Roberts, Constitution Marina
Philip Ziegler, Boston Redevelopment Authority
Lorraine M. Downey, Boston Conservation Commission
Representative Richard A. Voke

Response to: THOMAS ENNEN
Boston Harbor Associates

Public Access

The public access component of the DEIR has been revised to respond to concerns raised during the comment period. The new public access plan is described on page 73.

Water Dependent Activities

The Authority is unaware of many Charlestown residents who consider the Constitution Marina a community facility. The proposed Hoosac Pier development proposal in no way limits the existing marina operations except during construction. The limits to the marina's growth are set more by the water area which is within the Authority's jurisdiction. The action proposed for Hoosac does not cause the loss of the Pier as a water dependent facility since the marina is retained.

Recognizing the importance of continuation of water dependent uses at Hoosac Pier, the feasibility of placing a floating dock structure on the north side of the Pier is being investigated. Massport may also require a certain number of public slips in future marina leases at Hoosac Pier. The Authority will equip certain fender piles with spikes which will allow any one who has fallen into the water to grab hold and await rescue.

Storm Drainage

The Authority continues to support the Boston Water & Sewer Commission's efforts to reduce emissions to Boston Harbor which are discharged through the outfall adjacent to Hoosac Pier. As an abuttor, the Authority is anxious to participate in further evaluation of alternative sites for the outfall. It is the agency's sense that the appropriate responsible agency for this process is the Boston Water & Sewer Commission.

Design Review

Under its lease with the developer, the Authority will review and approve all designs and plans. This project differs from Bird Island Flats for which a Design Advisory Group was selected representing various outside interests. The essential difference is that Bird Island Flats, unlike Hoosac, was perceived to be a major and complicated project.

Bosport Docking Co
d/b/a CONSTITUTION MARINA
HOOSAC PIER
CHARLESTOWN, MASS. 02129
MARINA: 241-9640

22 November 1982

Samuel Mygatt, Director
MEPA Unit
100 Cambridge St., 20th floor
Boston, MA 02202
Re: File #4381

Dear Sir or Madam:

This EIR fails to respond to the questions raised in the Environmental Notification Form and the MEPA staff report in two basic ways.

1) In addressing those areas that concern the Charlestown community it fails to deal with the fact that Constitution Marina is an integral part of the community, that the marina residents are the people who will be most impacted by the project; and that the marina, particularly the sight lines that lead trhough the outer rows, is essentially the front door of Charlestown, and its major recreational facility.

2) It fails to recognize that recreational boating is THE major maritime growth area in the harbor and that any plan that calls for the diminishment, temporarily or otherwise, of a maritime use of Massport property is counter to Massport's mandate and has an adverse effect upon the environment.

The accompanying references point out specific examples in the EIR that substantiate the above statements.

We feel that the adverse effects of the project should be mitigated by Massport amending the EIR to include the following:

1) Provision to temporarily relocate those floats attached to the Hoosac Pier bulkhead. This relocation should be about 100 ft. from the bulkhead (ref: 4.1 Bulkhead Construction). See enclosed Plan. This would minimize the impact on Hoosac Pier's nearest neighbors, the boat owners and residents of Constitution Marina.

2) The plan shown would temporarily remove all boats from the West bulkhead. Slips for these boats would, during the bulkhead repairs, be provided for by the expansion shown on figure 2a. Those boats on the South face would be located as shown on figure 2b.

Massport would benefit by the ability to provide clear access to its bulkhead contractor. The removal of the potential liability of damage to expensive boats should mean a substantially lower bid for Massport.

Boat owners, residents and the marina operator would avoid the constant shifting of boats, electrical, telephone and water connections and the inevitable conflict between the contractor and the boat owners.

3) The reduction of the commercial maritime use of the pier should be offset by an increased recreational maritime use. Provision should be made in landside construction for a marina support facility. Further provision should be made to maximize the boat capacity at Hoosac Pier and its contiguous waters.

4) We believe that if commercial maritime use is eliminated, that the substitution of water dependent recreational facilities is very much in the public interest.

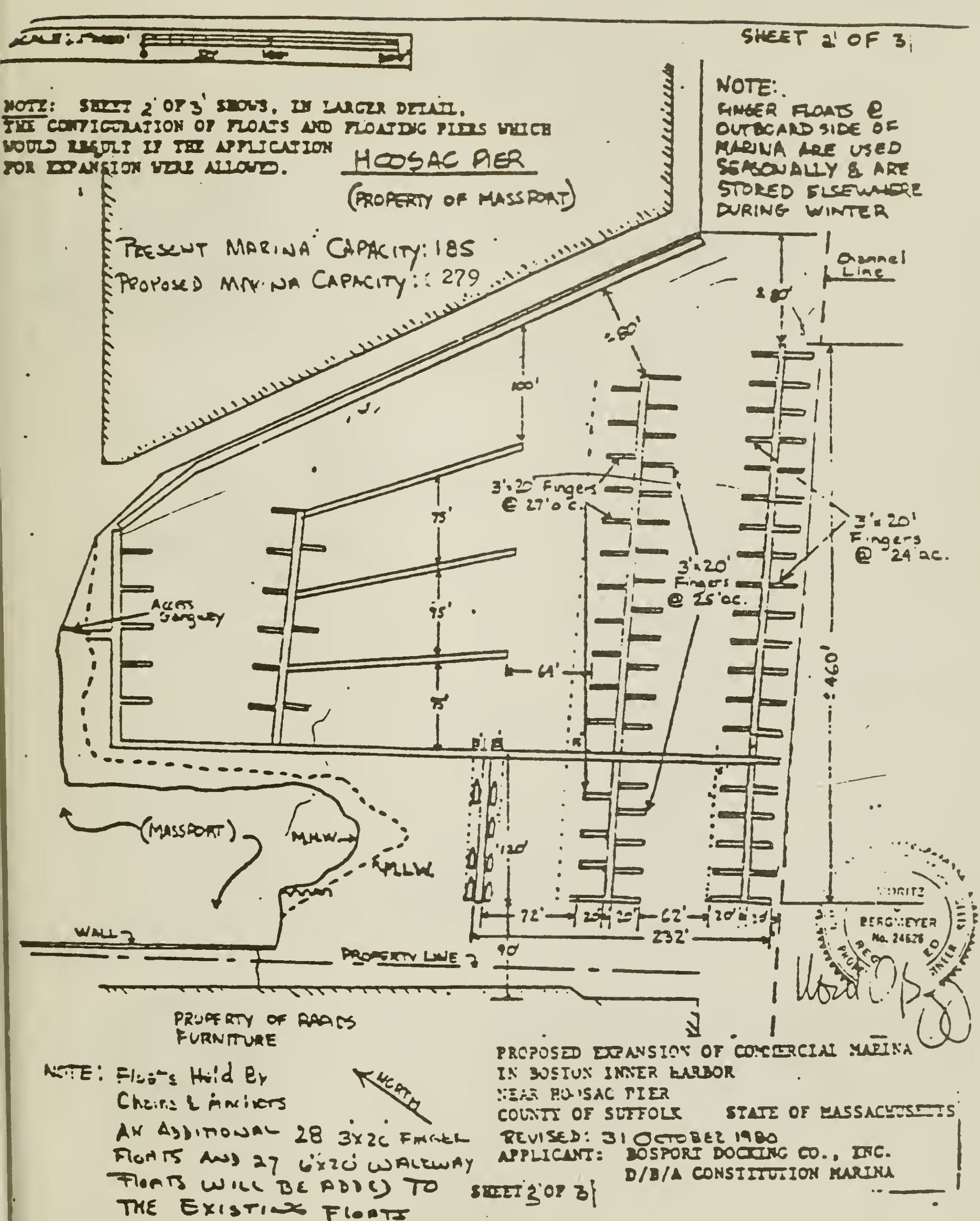
The above solution would require the cooperation of Massport and the approval of the appropriate permitting authorities. The Board of Massport has recently instructed its staff to enter into negotiations that could provide a constructive solution. Preliminary discussion with the staff of permitting agencies demonstrate that because of the temporary nature of the floating slips that prospects for approval look favorable.

5) CZM and others have documented the need for recreational boating facilities.

6) If CZM were to cite a marina that best meets their location standards, it could well be Constitution Marina. Massport as a public body has an obligation to comply with the spirit as well as the letter of the environmental process. It is our hope that with the help of MEPA we will all hold to the highest standard.

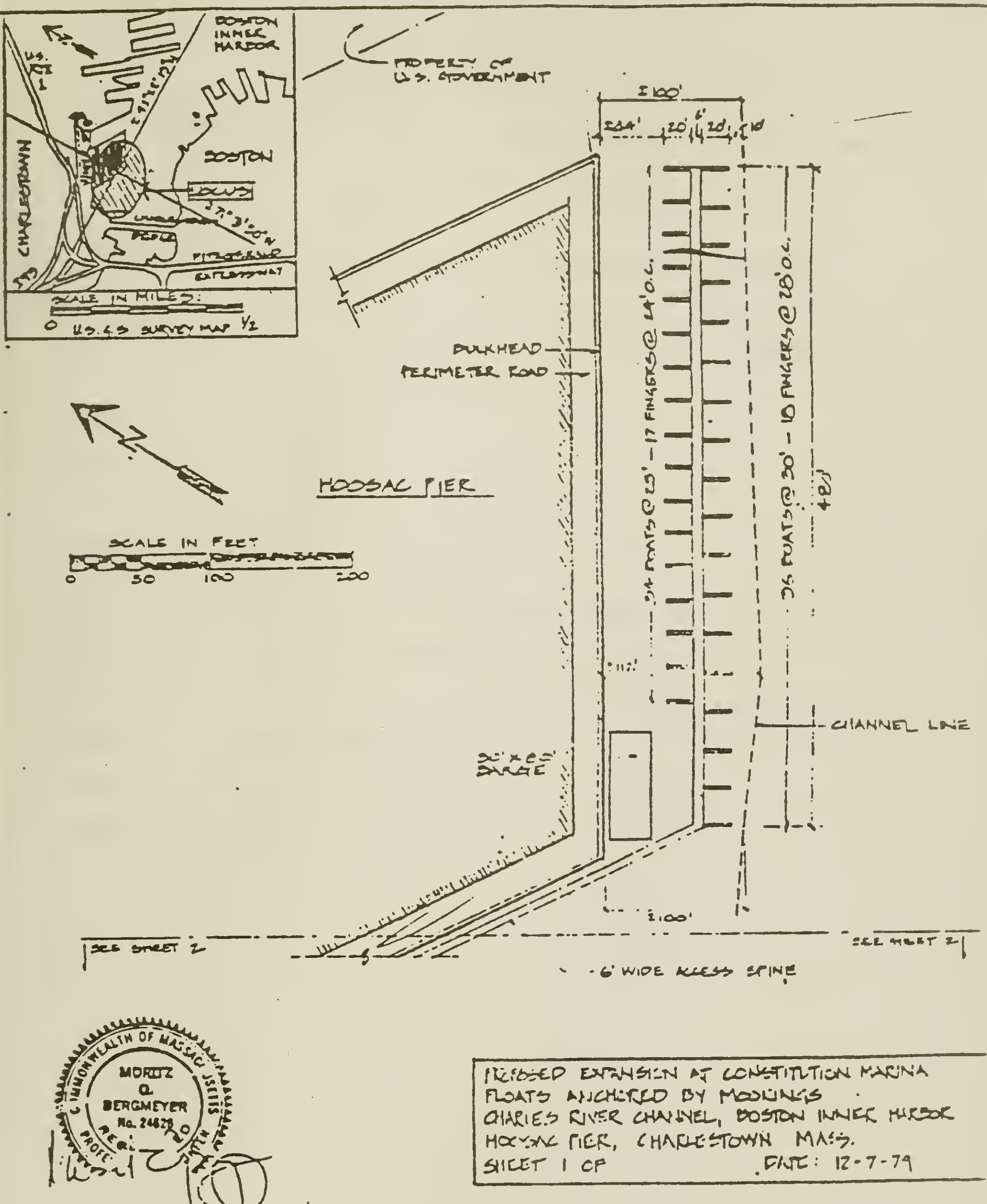
Jack M Roberts
President

encl: Plan 2a & b
Notes on ENF & EIR (2 pages)



SHEET 2 OF 3
NOTE: SHEET 2 OF 3 SHOWS, IN LARGER DETAIL, THE CONFIGURATION OF FLOATS AND FLOATING PIERS WHICH WOULD RESULT IF THE APPLICATION FOR EXPANSION WERE ALLOWED.
HOOSAC PIER
(PROPERTY OF MASSPORT)
NOTE: FINGER FLOATS @ OUTBOARD SIDE OF MARINA ARE USED SEASONALLY & ARE STORED ELSEWHERE DURING WINTER
PRESENT MARINA CAPACITY: 185
PROPOSED MARINA CAPACITY: 279
Channel Line
80'
100'
75'
75'
75'
64'
3'x20' Fingers @ 27' o.c.
3'x20' Fingers @ 25' oc.
3'x20' Fingers @ 24' oc.
460'
120'
Access Gangway
(MASSPORT)
MHW
MLLW
WALL
PROPERTY LINE
72'
62'
232'
90'
PROPERTY OF RAAMS FURNITURE
NORTH
NOTE: Floats Held By Chains & Anchors
AN ADDITIONAL 28 3x20 FINGER FLOATS AND 27 6'x20' WALKWAY FLOATS WILL BE ADDED TO THE EXISTING FLOATS
PROPOSED EXPANSION OF COMMERCIAL MARINA
IN BOSTON INNER HARBOR
NEAR HOOSAC PIER
COUNTY OF SUFFOLK STATE OF MASSACHUSETTS
REVISED: 31 OCTOBER 1980
APPLICANT: BOSPORT DOCKING CO., INC.
D/B/A CONSTITUTION MARINA
SHEET 2 OF 3
BERGMEYER No. 24626

FIGURE 2a



BOSTON INNER HARBOR
PROPERTY OF U.S. GOVERNMENT
BOSTON
CHARLESTOWN
SCALE IN MILES
U.S.G.S SURVEY MAP
BULKHEAD
PERIMETER ROAD
HOOSAC PIER
SCALE IN FEET
0 50 100 200
CHANNEL LINE
SEE SHEET 2
6' WIDE ACCESS SPINE
MORITZ Q. BERGMEYER No. 24628
PROPOSED EXTENSION AT CONSTITUTION MARINA
FLOATS ANCHORED BY MOORINGS
CHARLES RIVER CHANNEL, BOSTON INNER HARBOR
HOOSAC PIER, CHARLESTOWN MASS.
SHEET 1 OF
DATE: 12-7-79

FIGURE 2b

Page 1	Project Summary:	
	Paragraph 2: retention means no diminishment.	
	Paragraph 3: 88 spaces equals exclusive use?	

Site Plan Existing: fails to show full marina including "R"

Page 6	1.3 fails to mention community concern for recreation.
Page 11	poor maintenance now causes massive impact on marina.
Page 16	2.6 land access to waterfront not prohibited by marina.
Page 19	untrue
Page 20	untrue
Page 21	Paragraph 1: free parking?
Page 28	Figure 10 shows use of "R"
Page 37	Figure 17 shows low water pre '48.
Page 40	Sandblasting noise is not minimul
Page 41	75' + 100' each direction = 275' See page 40.
Page 58	Noise impact to marina
Page 59	Fail to do noise level in marina
Page 61	Water quality

ENF

Page II	D. Failed to check construction impact on open space and recreation.	
XII	Fails to show marina locus.	
III	II B2	Fails to show marina acres.
IV	III A	Fails to address recreational diminishment of marina.
VI	F1	No adequate parking lot drainage
VII	How many tons of sand	
IX	G Air Quality:	Construction machinary affects marina.
	2. Should include marina.	
X	k. Removes present wind screen.	
XI	IV A. Check MDC and CZM recreation.	
XVII	D. Maritime includes marina?	

Response to: JACK ROBERTS
Bosport Docking Company

Provision for Float Relocation and Clear Access

The bulkhead construction will require the marina to move its floats 20 feet from the edge of the west bulkhead face during the three-month construction period on that face. A 40 foot area will be required by the construction crew when they replace the rip rap, but this area will only be required for several days. The Marina's office float must also be moved for several days while the tie rods are installed. The Marina operator was advised of these requirements at a meeting with Alexander Surko, the Authority's Port Engineer.

The Authority's current lease with Constitution Marina anticipated construction at Hoosac Pier and explicitly acknowledged that "such construction ... may inconvenience and partially impair the company's use of the leased premises. The company agrees that no liability shall attach to the Authority ... by reason of such inconvenience ..."

The Marina's lease area only includes 194,000 square feet to the west of the pier. While the Authority permitted the expansion to the south face of Hoosac Pier in 1979, no lease was ever signed, and the Marina is there as a tenant-at-will.

The Marina operators would prefer to relocate their floats by extending them past the Authority's property line for the entire bulkhead construction period. While this is an option which they may pursue independently, the Authority has assumed a status quo operation for its own planning purposes.

Reduction in Maritime Uses

The development proposed for Hoosac Pier does not result in the elimination of a commercial maritime use. Hoosac Pier has long been closed as a maritime cargo facility because it is not large enough to handle containers. The Pier remains open, however, for other maritime uses including recreational boating and the docking of a water-based transportation system in the future.

The Hoosac Pier development as proposed does not impinge on marina operations or constrain its future growth. The Authority's water area is limited however, and the U.S. Navy's concerns about small boats close to the U.S.S. Constitution will affect the extent to which the marina can be expanded in the future.

Site circa
(proposed)

HOOSAC PIER
Charlestown Ma